J-4698-8.

THE LANCET.

No. 4266. Vol. CLXVIII. LONDON, SATURDAY, JUNE 3, 1905. [Pp. 120+48.

CONTENTS.

DISCOURS sur les Conditions Générales des Études Médicales et de l'Assistance Publique à Paris, à propos du Voyage des Médecins Britanniques. Par le Docteur LUCAS - CHAMPIONNIÈRE, Chirurgien de l'Hôtel-Dieu; Membre de l'Académie de Médecine 1479

POST-GRADUATE LECTURE on Laryngeal Paralyses and their Diagnostic Value. Delivered at Mount Vernon Hospital for Diseases of the Chest on Feb. 9th, 1905, by HAROLD BARWELL, M.B. Lond., F.R.C.S.Eng., Laryngologist to the Hospital; Assistant Surgeon to the Metropolitan Ear, Nose, and Throat Hospital, &c.—(*Illustrated*)..... 1481

ORIGINAL ARTICLES.

The Conditions Affecting the Development of Flagellated Organisms from Leishman Bodies and their Bearing on the Probable Mode of Infection. By LEONARD ROGERS, M.D.Lond., M.R.C.P.Lond., Captain, I.M.S.; Acting Professor of Pathology, Medical College, Calcutta..... 1484

A Case of Widespread Ulceration of Skin and Connective Tissue. By W. BARTRAM WATSON, M.D.Lond., Honorary Physician to the Yorkshire Home for Incurable and Chronic Diseases, Harrogate.—(*Illustrated*) 1487

The Operation of Jejunostomy, with a Description of a New Method. By A. W. MAYO ROBSON, D.Sc.Leeds, F.R.C.S. Eng., Senior Vice-President of the Royal College of Surgeons of England.—(*Illustrated*)..... 1488

The Second Dentition: its Medical Aspects. By HUBERT ARMSTRONG, M.D., Ch.B. Vict., M.D.Liverp., Assistant Physician, Liverpool Infirmary for Children 1489

Typhoid Fever and Pregnancy, with Special Reference to Fœtal Infection. By H. T. HICKS, F.R.C.S.Eng., Gynæcological Registrar to Guy's Hospital; and HERBERT FRENCH, M. D. Oxon., M. R. C. P. Lond., Medical Registrar to Guy's Hospital.. 1491

The Action of Yeast in Tuberculosis and its Influence on the Opsonic Index. By WILLIAM R. HUGGARD, M.A., M.D., M.Ch. R.U.I., F.R.C.P.Lond., and ROBERT C. MORLAND, B.Sc., M.B. Lond.—(*Illustrated*) 1493

A Note on the Treatment of the Toxæmic Symptoms in Scarlet Fever. By A. KNYVETT GORDON, M.B.Cantab., Lecturer on Infectious Diseases in the University of Manchester; Medical Superintendent of Monsall Hospital.. 1496

Innominate Aneurysm; Simultaneous Ligature of Right Carotid and Subclavian Arteries; Recovery. By H. NASON DUNN, M.B., B.Ch. Dub., Major, R.A.M.C. 1497

Coexistence of Cystic Mesometrium and Tubal Pregnancy. By F. J. STRONG HEANEY, M.A., M.D.Dub., F.R.C.S. Irel., Honorary Surgeon to the Victoria Hospital, Blackpool 1498

Sanitation and the Panama Canal: The Solution of Certain Climatic and Hygienic Problems. By JOHN GEORGE LEIGH. — I. (*Illustrated*)..... 1530

MEDICAL SOCIETIES.

CLINICAL SOCIETY:
A Case of Milky Ascites in which the Opalescence was not due to Fat.—Rhinoplastic Operation for Syphilitic Destruction of the Nose.—Primary Adrenal Carcinoma of the Liver.—A Case of Diabetes Mellitus with Xanthoma and Lipæmia.—Annual Meeting 1498

ROYAL ACADEMY OF MEDICINE IN IRELAND:
Exhibition of Specimens.—Cleft Palate. — Volvulus of the Cæcum 1499

NORTH OF ENGLAND OBSTETRICAL & GYNÆCOLOGICAL SOCIETY:
Exhibition of Specimens..... 1500

REVIEWS AND NOTICES OF BOOKS.

The Principles of Heredity with some Applications. By G. Archdall Reid, M.B.Edin., F.R.S.Edin. 1500

The Cambridge Natural History. Edited by S. F. Harmer, F.R.S., and A. E. Shipley, F.R.S. Vol. VII. By Dr. Harmer, Professor Herdman, Professor Bridge, and M. Boulenger 1502

Report on the Origin and Spread of Typhoid Fever in United States Military Camps during the Spanish War of 1898. By Major Walter Reed, Major Victor C. Vaughan, and Major Edward O. Shakespeare. Vol. I., Prepared under the direction of Surgeon-General Robert M. O'Reilly 1502

Notes on the Sorbonne. By J. A. Randolph 1503

In Confidence to Boya. By H. Bisseker, M.A..... 1504

Thomas Carlyle: The Man and his Influence. By Percy Warner 1504

The Effects of Tropical Light on White Men. By Major Chas. E. Woodruff, A.M., M.D. 1504

Caledonian Medical Journal ... 1504

NEW INVENTIONS.

The Typhoid Agglutometer ... 1505

An Accessory for Freezing Microtomes.—(*Illustrated*)... 1505

LEADING ARTICLES.

THE PROTECTION OF OUR MERCANTILE MARINE FROM OVERCROWDING AND DISEASE 1518

NUTRITION AND MALNUTRITION 1519

THE SPREAD OF SMALL-POX OCCASIONED BY SMALL-POX HOSPITALS 1520

ANNOTATIONS.

The Tenure of Public Health Appointments 1521

Poisonous Honey 1522

Centenary of the Royal Medical and Chirurgical Society.. 1522

The Royal College of Surgeons of England: Election of Members of Council 1523

Repeated Copious Hæmoptysis from an Aortic Aneurysm ... 1523

Visit of British Physicians and Surgeons to Paris 1523

Some Odd Foods..... 1524

Cricket, Health, and Anatomy 1524

The Royal Sanitary Institute.. 1525

Trachoma among Aliens 1525

The Asylum Workers' Association 1525

Barnwood House Hospital for the Insane, near Gloucester.. 1526

Physical Education 1526

Pasteur and Lister..... 1526

A Plea for the More General Use of Tuberculin 1526

The Ventilation of Tube Railways 1527

The Early Diagnosis of Glycosuria..... 1527

Congenital Word Blindness and Congenital Word Deafness 1527

The Dangers of Blast Furnace Gas 1528

The Detention of Lunatics in Workhouses 1528

Case of Myasthenia Gravis with Persistent and Diseased Thymus 1528

The Unburied Child and the Guardians of the Poor of Southwark 1529

Coroner's Inquests in Liverpool 1529

MEDICINE: ITS PRACTICE AND ITS PUBLIC RELATIONS.

Chapter XIV.

The Present State of Medical Education.—(*Continued*)..... 1533

LOOKING BACK.

(From THE LANCET, Saturday, June 2, 1827.)

Dissection 1505

PUBLIC HEALTH AND POOR LAW.

LOCAL GOVERNMENT BOARD:
Annual Reports of Medical Officers of Health 1538

VITAL STATISTICS:
Health of English Towns ... 1539
Health of Scotch Towns 1539
Health of Dublin 1540

SPECIAL ARTICLES.

Medical Defence Union 1517

The Optical Convention 1535

The Epidemic of Fainting among School-girls at Clowne, Derbyshire 1536

The German Surgical Congress. (*Concluded*) 1536

Medicine and the Law 1537

The Services..... 1540

Visit of British Physicians and Surgeons to Paris 1542

Birmingham 1543

Liverpool 1544

Leeds 1544

Scotland..... 1545

Ireland 1545

Paris 1546

Vienna 1547

Notes from India 1547

THE GENERAL MEDICAL COUNCIL.

Penal Cases 1506

Visitation and Inspection of Qualifying Examinations ... 1507

Qualification for Public Health Diploma..... 1507

Report of the Education Committee..... 1508

Financial Report 1510

The Final Examination of the University of Oxford..... 1511

The Final Examination of the University of London 1512

Final Report on Cycle of Inspection..... 1513

The Navy, Army, and Indian Medical Services..... 1513

Report of the Pharmacopœia Committee 1513

Report of the Dental Committee..... 1513

Canvassing and Advertising ... 1514

Direct Representation on the General Medical Council..... 1515

Fee Suggested for Students' Registration..... 1516

Appointment of Committees... 1517

CORRESPONDENCE.

The Nature of Diabetes Mellitus (Dr. W. Langdon Brown) 1541

The Sanatorium Treatment of Consumption: Is it Worth While? An Answer from the Durham County Sanatorium (Mr. W. Robinson) 1541

Morphine and Chloroform (Mr. Tom Bird)..... 1542

Gall-stones and Cancer (Mr. H. A. T. Fairbank) 1542

Cancer Bodies and Reproductive Tissues (Dr. Charles Powell White) 1542

An Old Lancet Case (Mr. Edward A. Piggott) 1554

The Fee for a Police Summons 1554

St. Helens Hospital (Mr. J. Fenwick Allen) 1554

A Curious Superstition (Dr. Hy. Draper Bishop) 1554

OBITUARY.

Eustace Talbot, M.B., B.C. Cantab., M.R.C.P.Lond. 1548

George Longbotham, M.R.C.S. Eng., L.S.A.Lond. 1548

MEDICAL NEWS.

Foreign University Intelligence 1481

Pass-lists of the Universities of Cambridge and London ... 1549

Society for Relief of Widows and Orphans of Medical Men 1549

Central Midwives Board 1550

University of Oxford 1550

The Hospital for Epilepsy and Paralysis, Maida Vale 1550

Festival Dinner of the City of London Hospital for Diseases of the Chest 1550

Glasgow University Club, London 1550

State Registration of Trained Nurses 1551

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 1551

House of Commons 1551

Registration of Nurses..... 1552

Appointments 1553

Vacancies 1553

Births, Marriages, and Deaths.. 1553

Notes, Short Comments, and Answers to Correspondents... 1554

Medical Diary 1554

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

ARNOLD:—
Hutchison .. Diseases of Children.... 1

BAILLIERE, TINDALL & COX:—
Clarke ..... Refraction of the Eye ... 1
Lake ..... Diseases of the Ear 1
Owen..... Cleft-Palate, &c..... 1

BALE, SONS & DANIELSSON:—
Worth ..... Squint..... 1

C ASSELL & CO.:—
Owen..... Surgical Diseases of Children 1

CHURCHILL, J. & A.:—
Craig..... Psychological Medicine
Hall & Horsley Morbid Histology, &c. 1
Lack ..... Introduction to Physiology 1
Savill ..... Clinical Medicine 1
Taylor, J. .. Paralysis, &c. 1

GLAISHER:—
Cowen ..... X-Rays 1
Mansell ... Constipation..... 1

LEWIS:—
Campbell, H. Pathology, &c. 1
" " Headache 1
" " The Rest Cure 1
Lewers..... Diseases of Women 1
" ..... Cancer of the Uterus 1
Reid ..... Curvature of the Spine 1

MACMILLAN & CO.:—
Tubby & Jones .... Surgery of Paralysis.... 1

PENTLAND, Y. J.:— PAGE
Berry..... Manual of Practical Ophthalmology 1
Cunningham. Text-book of Anatomy 1
" Manual of Anatomy.... 1
Gibson & Russell.... Physical Diagnosis 1
Muir & Ritchie.... Manual of Bacteriology 1
Thomson & Miles..... Manual of Surgery 1
Waring .... Operative Surgery 1

SAUNDERS & CO.:—
Saunders' Books for Nurses 1

MEDICAL LIBRARIES, &c.:—
Catalogue of the Institute of Hygiene 1

BAILLIERE, TINDALL & COX:—
Bidwell .... Intestinal Surgery..... 6
Bigg ..... Constipation 6
Lake ..... Laryngeal Phthisis 9

BALE, SONS & DANIELSSON:—
Simpson .... Adenoid Growths 9
Worth ..... Squint..... 6

CHURCHILL, J. & A.:—
Bigg ..... Spinal Caries 7
" ..... Spinal Curvature 7
" ..... Deformities of the Head and Neck..... 7
" ..... Amputations 7
" ..... Manual of Orthopnœa 7
Cripps ..... Ovariotomy, &c. 8
Harrison..... Stone, Prostate, &c. 9

GLAISHER:— PAGE
Bell ..... Cancer Problem in a Nutshell 8
" ..... Tropical Cachexia 8
Cowen ..... X-Rays 8
Cul-lenworth Clinical Illustrations .. 8
Promnard .. Mucomembranous Enterocolitis 8
Herschell .. Intrapuerric Perforation 8
Hutchinson.. Human, &c., Pathology 8
Prentice-ville. Ethyl Chloride 8
" Anæsthetic Difficulties 8
Savill ..... Neurasthenia 8
Westminster Hospital Reports..... 8
Williams.... Short Essay on Insanity 9

KEGAN PAUL & CO :—
Taylor ..... Diseases of the Eye 8

LONGMANS, GREEN & CO —
Bennett .... Recurrent Effusion into the Knee Joint 8
Dakin ..... Handbook of Midwifery 8
Dickinson .. Renal and Urinary Affections 8
Goodall & Miles..... Diseases of the Anus, &c. 8
Gray ..... Anatomy 8
Halliburton.. Chemical Physiology .. 8
Schäfer..... Essentials of Histology 8
Text-book of Medical Practice..... 8

MACMILLAN & CO.:—
Lockwood .. The Surgery of Appendicitis 9

MEDICAL PUBLISHING CO.:—
Lane..... Chronic Constipation .. 8

PENTLAND, Y. J.:— PAGE
Lockwood .. Aseptic Surgery..... 9
" .. Cure of Hernia, &c. 9

PRACTITIONER, Ltd.:—
Clarke ..... Life ostion of the Hip .. 9

REBMAN:—
Denver..... Aperient it 7
Health and Disease in Relation to Marriage..... 7

RENSHAW:—
Green ..... Pathology, &c. 9
Guy & Ferrier.... Forensic Medicine..... 9
Yeanes..... Index of Diseases 9
Wood ..... Appendicitis of Trauma 9

SAUNDERS & CO.:—
Belk's Reference Hand-Books for Nurses 3
De Lee's Obstetrics for Nurses 3
Friedenwald & Rehrik's Dietetics for Nurses 3
Mottram's Practice..... 4
Stoney's Nursing 3

SMITH, ELDER & CO.:—
Bentley .... Orthopædic Surgery..... 9
" .... Gastric Ulcers..... 9
" .... Complicated Fractures 9
Lawson .... Diseases and Injuries of the Eye 6
Tirard ..... Albuminuria, &c. 6

MEDICAL LIBRARIES, &c.:—
Behnke—Stammering 1

OFFICIAL AND GENERAL ANNOUNCEMENTS.

COVER.

OFFICIAL NOTICES:—
Sale & Co.—Address wanted 1

APPOINTMENTS VACANT:—
Acton U.D.C..... 77
Bradford Union Workhouse..... 77
Cancer Hospital, Fulham-road..... 76
Darenth Asylum, Dartford 77
Devon District Lunatic Asylum, Dawnpatrick 77
East London Hospital for Children, Shadwell..... 77
Gordon Hospital, Vauxhall Bridge-road 77
Guest Hospital, Dudley 76
Hanley, &c., Infectious Diseases Hos. 76
Hos. for Sick Children, Gt. Ormond-st 76
Hull Royal Infirmary 77
Indian Medical Service 79
Jenny Lind Infirmary for Children, Norwich 79
Kettering and District Hospital..... 79
Leicester Infirmary 77
Liverpool Hospital for Consumption 79
London County Council 77, 79
London Temperance Hospital 79
Manchester Royal Infirmary and Dispensary 77
Mustapha Superieur, Algiers 77
North-Eastern Hospital for Children, Hackney-road 76
North Staffordshire Infirmary and Eye Hospital, Hartshill 78
Nottinghamshire Consumption Sanatorium, Mansfield 79
Queen Victoria Jubilee Institute for Nurses 79
Royal Dental Hospital, London 77
Royal Devon and Exeter Hospital..... 79
Royal Ear Hospital, Soho 77
Royal Free Hos. Gray's Inn-road 77, 79
Royal Isle of Wight County Hospital, Ryde..... 79
Royal National Hospital for Consumption, Ventnor... 78
St. John's Royal Hospital 79
Samaritan Free Hospital for Women 79
Sanatorium for Poorer Consumptives, Winley 79
Sanitary Inspectors' Examination Board 79
Scarborough Hospital and Dispensary 79
South Devon and East Cornwall Hos., Plymouth 79
Staffordshire Gener l Infirmary 79
Throat Hospital, Golden-square 76
Turner, Adolphi 79
Warwick County Asylum Hatton 77
Westminster Hospital 77, 79

ASSISTANCIES, MEDICAL..... 84

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford 75
Barkham House, Lambeth 75
Barnwood House Hospital..... 69
Bishopstone House, Bedford 67
Bodorgan Manor, Bournemouth 75
Buntingford House Retreat, Herts .. 70
Camberwell House, Peckham-road .. 75
Clarence Lodge, Clapham-park 75
Coppice, The, Nottingham..... 83
Coverdale House, Seve. 74
Cotswold Sanatorium 70

ASYLUMS—(Continued).
Crookesbury Sanatorium, Surrey..... 71
Dalrymple House, Rickmansworth .. 67
Dartmoor Sanatorium 71
David Lewis Colony, Alderley Edge.. 78
Denbeigh Sanatorium, Parkstone 71
Dent, Wadstrd 75
Dorchester Asylum 67
Dr., Eastbourne 74
Dr. Hambleigh's Sanatorium, Dartmoor 72
Dr., Sharnbrook 71
Dunstone Park Sanatorium, Paignton 74
East Anglian Sanatorium, Nayland .. 72
Earlswood, Ashford 67
Fairford Retreat, Gloucestershire.. 74
Ferguson, Barnet 74
Flower House, Catford 69
Grove House, Church Stretton 69
Grove, The, Catton, Norwich 69
Hailey Open Air Sanatorium, Ipsden 73
Haydock Lodge, Newton-le-Willows 69
Haynes, Hove 75
High Shot House, Twickenham 74
Hirsh, Mrs., Hollington 69
Home for Invalid Children, Colwall 73
Home Sanatorium, Bournemouth .. 74
Inverurie Lodge Retreat, Colinsburgh 69
Lady Superintendent, Brighton 74
Lady Superintendent, Streatham 75
Lawson, Nordrach-on-Dee, Banchory 71
Loch, Chapham-park 75
London Fever Hospital 74
London Open-Air Sanatorium, Wokingham 72
M.D., Leadenhall-street 75
Melbourne House, Leicester..... 69
Meadle Hills Sanatorium, Wells 71
Moat House, Tamworth 69
Nordrach in Wales 70
Nordrach-upon-Mendip Sanatorium.. 70
Northlands Retreat, Wanstead 75
Northumberland House, Finsbury-park 72
Northwoods House, Winterbourne .. 69
Norwood Sanatorium 67
No. 903, L.O., Strand..... 75
No. 907, L.O., Strand..... 75
Ochil Hills Sanatorium, Khaross-shire 73
Overdale, Whitefield..... 69
Painswick Sanatorium..... 71
Park House Convalescent, &c., Home, Waterloo..... 74
Plas-yn-Dinas, Merionethshire 16
Plympton House, South Devon 69
Rosrevor Open-Air Sanatorium, Warrenpoint 73
Shaftesbury House, Formby..... 84
Springfield House Private Asylum, Bedford 67
St. Andrew's Hospital, Northampton 69
St. Luke's Hospital, E.C. 82
Stocker, Craven-street..... 74
Stone House, Canterbury 74
Stretton House, Church Stretton 69
Sunshine, Cheshunt 75
Thunderclife Grange, nr. Rotherham 73
Tower House, Leicester 69
Tuthill, Pakenham 73
Vale of Clwyd Sanatorium..... 70
Warneford Asylum, Oxford 67
West Malling-place, Kent 70
Wexford House, Exeter 81
Wye House, Buxton 68
Wyke House, Isleworth 83
Yarrow Convalescent Home, Broadstairs 69

COMPANIONS:—
T. B., Piccadilly 86

FINANCIAL, &c.:—
Birkbeck Bank..... 78
Equitable Reversionary Interest Soc. 78

HEALTH RESORTS, BATHS, &c.:—
Aberystwith, the Biarritz of Wales .. 72
Austrian Travel Bureau—
Tours in Austria 73
Bad Nauheim 73
Bingelburg 73
Blanckenburg 74
Matlock Bath 74
Matlock Hydropathic 74
Plombières 74
Sandrock's, Ragbolt 73
South Devon Health and Holiday Resort Bishop's Teignton 73
Woodhall Spa Baths 74

HOTELS:—
Barton Court Hotel, New Milton 67
Grand Hotel Carron, Florimay 67
Ilfracombe Hotel 67
Kleinigen—Hotel de Russie 67
Manchester Hotel and Chalets, Belmont 67
Philps' Dunblane Hydro 67

HOUSE & ESTATE AGENTS:—
A. B. C., Uranium m 83
A. B., Great Portland street 84
Barratt Oldham 73
Elliott, Son & Boyton, Vere-street..... 83
Hammond, Westbourne 83
Haydock, Bloomsbury-street 83
Hobbs & Sons, Tunbridge Wells 83
Wilson & Co., Country 83
Ills, Queen's road, Peckham 83
CONSULTING-ROOMS:—
Harley, Piccadilly 83
Knight, Frank & Rutley, Consultants of 83
X., Soho-square-street 83

LIFE & FIRE ASSURANCES:—
Clerical, Medical and General Life Assurance Society 71
Prudential 16

MEDICAL ACCOUNTANTS, &c.:—
Turner 84

MEDICAL AGENTS:—
Dr. Field Hall 82
Lee & Martin 86
London Medical Agency 83
Manchester Medical Agency 82
Manchester Medical, &c., Association 82
Medical Agency 82
Moore 84
Needes, Herbert 83
Needes, J. C. 79
Orridge 79
Peacock & Hadley 83
Reverdes & Branson 81
Scholastic, Clerical, &c., Assoc 80
Southern Medical Agency 79
Turner 84
Wilson & Sons 82

MEDICAL SCHOOLS (LONDON):—
Cooke's School of Anatomy 83
Medical Graduates' College, &c..... 84
West London Post-Graduate College.. 83

NURSING INSTITUTES:—
General Nursing Association 86
Hos. for Sick Children, Gt. Ormond-st. 84
Leeds Trained Nurses' Institution.... 86
London Nurses' Association 87
Male and Female Nurses' Assoc. 84
Male Nurses' Association 87
Male Nurses' Co-operation..... 86
Middlesex Hos. Trained Nurses' Inst. 86
Nurses' Co-operation, Portland-place 86
Queen Charlotte's Lying-in Hos..... 86
St. John's House..... 86
Temperance Male and Female Nurses' Co-operation 84
Temperance Male Nurses' Co-operation 86
York-road General Lying-in Hospital, Lambeth 87

OFFICIAL NOTICES:—
College of Preceptors 84
Epsom College..... 84
Hospital for Diseases of the Throat .. 87
London Post-Graduate Association .. 83
London Throat Hospital..... 87
Medico-Psychological Association of Great Britain and Ireland 84
Mount Vernon Hos. for Consumption 85
Oxford University..... 84
Pathological Laboratories, Langham-place 84
Royal Ear Hospital, Soho 84
Royal Naval Medical Examination .. 85
Surgical Aid Society 84
University of Cambridge..... 84

PARTNERSHIPS & PRACTICES:—
Beaty & Son, Hilborn..... 84
Hall, Adolphi 84
London Medical Agency, Strand..... 84
M.D., Liverpool 84
No. 819, L.O., Strand..... 84
No. 837, L.O., Strand..... 84
No. 861, L.O., Strand..... 84
No. 867, L.O., Strand..... 84
No. 868, L.O., Strand..... 84
No. 869, L.O., Strand..... 84
No. 871, L.O., Strand..... 85
No. 883, L.O., Strand..... 85
No. 884, L.O., Strand..... 85
No. 894, L.O., Strand..... 85
P. C. J., Coleman-street 84

RAILWAY & STEAMSHIP CO.'S:—
Ashton & S. Co.—Norway Cruises 76
Booth S.S. Co.'s Tours..... 76
Great Eastern Railway Co.—
Holidays on the Rhine 78
New Zealand Shipping Co..... 78
Orient-Pacific Line Pleasure Cruises 78
Royal Mail Steam Packet Co.—Tours 76

SCHOOLS, PREPARATORY, &c.:—
Asher's English, &c., School Agency 81
Jones & Co.—Strand 84
Manchester Pupil Teachers' College 84
S. B., Saxhill-street 84

TUTORS & LECTURERS:—
Behnke 61
Duchesne 83, 86
Evans 86
Fellowships 83
Gemmell 86
Gooch..... 84, 85
Kerin 84
No. 862, L.O. .. 86
Palyerno 83
Univ. Exam. Postal Inst.. 85
Van Praagen..... 83
Weymouth 69

(For Index to Trade and Miscellaneous Advertisements see page 4).

Saunders' Books for Nurses

Friedenwald and Ruhräh's Dietetics for Nurses

READY SOON

This work has been prepared to meet the needs of the nurse, both in the training school and after graduation. It aims to give the essentials of dietetics, considering briefly the physiology of digestion and the various classes of foods and the part they play in nutrition. The subjects of infant feeding and the feeding of the sick are fully discussed, and a brief outline is given of the principles involved in the nourishment of patients suffering with the various diseases in which diet plays an important role in treatment. Rectal alimentation and the feeding of operative cases are fully described. Diet-lists and recipes for the invalid's dietary are appended. 12mo of 263 pages. By JULIUS FRIEDENWALD, M.D., Clinical Professor of Diseases of the Stomach, and JOHN RUHRÄH, M.D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. Cloth, 6s. 6d. net.

Beck's Reference Hand-Book for Nurses

JUST ISSUED

This little book contains information upon every question that comes to a nurse in her daily work, and embraces all the information that she requires to carry out any directions given by the physician; it covers, also, information on all emergencies that may arise before or between visits of the physician. There are also articles on bacteriology, massage, medical electricity, obstetrics, care of infants, etc. 32mo of 177 pages. By AMANDA K. BECK, of Chicago. Flexible morocco, 5s. net.

De Lee's Obstetrics for Nurses

RECENTLY ISSUED

While Dr. De Lee has written his work especially for nurses, the general practitioner also will find it useful and instructive. The *Medical Chronicle* says that it "combines with a readable account of elementary obstetrics very full details of obstetric nursing." 12mo of 480 pages. By JOSEPH B. DE LEE, M.D., Professor of Obstetrics, Northwestern University, Chicago. Cloth, 12s. net.

Stoney's Nursing

NEW (3rd) EDITION

In this work the author explains the entire range of private nursing, and gives directions how to *improvise* everything needed in a sick-room. *The Lancet* says it is "a very complete exposition of practical nursing in its various branches, including obstetric and gynecologic nursing. The instructions given are full of useful detail." 12mo of 466 pages, illustrated. By EMILY M. A. STONEY, of the Carney Hospital, South Boston. Cloth, 7s. 6d. net.

Books Sent, Carriage Paid, on Receipt of Price

W. B. SAUNDERS & CO., 9, Henrietta St., London, W.C.

Australian Agency: 340, Bourke St., Melbourne, where our books can be obtained at London prices

INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER.

PAGE

CHEMISTS & DRUGGISTS:—
McKesson & Robbins—
Compound Stearate of Zinc iii

FOODS:—
Allen & Hanburys—
Allenburys Milk & Cereal Diet..... iv
Aylesbury Dairy Co.—
Humanised Milk ii

WATCHMAKERS, &c.:—
Smith & Sons, Ltd.—
Dimier's Watch iii
Strand Half Chronometer iii

AMBULANCES:—
Electromobile Co.—
Electric Motor Ambulance..... 12
St. John Ambulance—
Invalid Carriages 12
Wilson & Steckall—
Ambulances 12

BICYCLES, &c.:—
Norton—Tricycles 12

BOTTLE MERCHANTS:—
Imass 8
Islington Glass Bottle Company 8
Kilner Brothers, Ltd. 62

CARRIAGES, MOTORS, &c.:—
Armstrong—
Cruickshank's and Greene' Liveries 12
Dalrada—Victoria Brougham..... 13
Humber, Ltd.—
Motor Cars..... 13
Imperial Accident, &c., Insurance Co. 13
67, George-street, Portman-square—
Secondhand Carriages 13

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Castor Oil 37
Hyalo Amara 34
Antitoxins 49
Armour & Co.—
Suprarenalin 45
" Solution 45
" Triturates 45
Benger's Food, Ltd.—
Lactose Preparations 12
Peptonising Powders..... 32
Brady & Martin—
Saline Infusion Apparatus..... 37
Brin's Oxygen Co.—Brin's Oxygen..... 59
Bullock & Co.—
Pepsine Food 89
Add Glycerine of Pepsine 89
Burgoyne, Burbidge & Co.—
Cremosal 60
Collargol 60
Burroughs, Wellcome & Co.—
Kepler Malt Extract 28
Saxin 28
"Vanadine 28
Tabloid Redoxol Iron and Rice-barb Compound 29
Chadot Depôt—Cadol 48
Cowley & Co.—
Hypophol 27
Glyco-Thymoline..... 27
Dionogen 28

CHEMISTS—(Continued). PAGE
Cumar & Son—
Mowery's Iodinated Wine 60
Syrup 60
Cacodylate of Sodium (CBS) 30
Lecithine (Clin) 30
Cox & Co.—
Pills and Tablets 44
Evans Sons Lescher & Webb, Ltd.—
Savarese's Membranous Capsules 42
Gale & Co.—
Linoleo Hevets Co. 53
Liq. Sapodil Ethereal 53
Giles Schacht & Co.—
Hisolin 30
Hewlett & Son—
Mist. Pepsinæ Co. c. Bismuthe..... 26
Liq. Santoi Flav. c. Bismuthe 26
Cubeba 26
Heyer & Co.—Hefo-Seifen 60
Hudson—Bismuthol Jujubes 51
Kirby & Co.—
Glycosote 48
Kreochyle Co.—
Tarif Soro Glycerine..... 56
Lambert Pharmacal Co.—
Listerine 33
Macfarlan & Co.—
Chloroform 58
Anæsthetic Ether 59
Maltine Manufacturing Co.—
Maltine with Phosphate of Iron, Quinia and Strychnia 37
Newbery & Sons—
Glycobenzene-Hall 56
Borobenzene-Hall 20
Parke, Davis & Co.—
Chlorotone 24
Raimes & Co.—
Pilnger's Nutrient Suppositories... 60
Roberts & Co.—
Bromidia..... 57
Sanatogen Co.—Sanatogen..... 44
Savory & Moore—
Pancreatic Emulsion 31
Schimmel & Co.—Pullanta 52
Scott & Bowne—
Scott's Emulsion 58
Squire & Sons—
Nitrite Kessler 22
Glycheral 22
Pyocyanase 22
Vurcal..... 22
Iron Arsenate 22
Tymar Indian Grillies 57
Tremmer Preparations 61
Wand—Pills 60
Wilcox & Co.—
Apiolins 58
Wyeth—Creosote..... 56
Ozleichlor 56
Desarsylvrup of Lacto-Phosphate 56
Santal-Midy 56
Grimault's Gravetine 56
Willows, Francis, Butler & Thompson—
Kreosphen 46
Zimmermann, A. & M.—
Beta-Eucaine-Lactate 31
Protovetrin 31
Piperazine 31
Sublamin 31
Exodin 31

FOODS:—
Allen & Hanburys—
Allenburys Milk Foods 35
Malted Foods 35
Appleyards—Artox Wholemeal 62
Bainbridge's Diabetic Preparations ... 57
Bovril (Limited)—Invalid Bovril 30
Cadbury's Cocoa 43
Collard & Co.—
New Diabetic Foods 60

FOODS—(Continued). PAGE
Cowan & Co.—
Liquid Peptonoids 57
Colemans & Co.—
Wincarnis 14
Digestive Tea Syndicate, Ltd.—
Phenson Tea 61
Fletcher, Fletcher & Co.—
Vibrona 53
International Pharmacal Co.—
Plasmon 41
Mankn Food Co., Ltd.—
Mankn Diabetic Foods..... 61
Mellin's Food, Ltd.—
Mellin's Food 45
Nicolay & Co.—
Hemolecose 31
Protene Foods 52
Roborat Co.—Roborat 61
Tibbles' Vi-Cocoa, Ltd.—Vi-Cocoa 42
Valentine's Meat Juice Co.—
Meat Juice 18
Van Abbott & Son—
Foods for Diabetics and Obesity .. 61
Wolford & Sons—
Sanitary Milk Supply 47

FURNITURE, &c.:—
Army and Navy Stores Furnishing Co. 9
Carson—Invalid Furniture 52
Maple & Co—
Consulting-room, &c., Furniture 54

HOSIERS, &c.:—
Jay Finish Pants and Drawers 54

MED. & SURG. APPLIANCES:—
Bailey & Son—
Washable, &c., Trusses 63
Elastic Stockings 63
Down Bros.—
The "First Aid" 18
Down Bros' Lever Clamp Mineral Water Bottle 18
Skinner's Chest Press with Finger Rest 18
Indiarubber Cushions 18
Downing Radiant Heat Co.—
Downing Radiant Heat and Light Treatment 10
Brunt—Orthopædic Apparatus 11
Galen Manufacturing Co.—
Lister's Gauze 9
Hall & Son—
Hospital Bedsteads and Aseptic Furniture 53
Hogg & Son—
Improved Steam Vaporisers..... 9
Holland—Instep Arch Boot 11
Hooper & Co.—
Gastle Water or Air Beds 10
Huxley—
Spiral Abdominal Belts 11
May, Roberts & Co.—
Absorbent Tissue 56
Cotton Wools 56
Gamgee Tissue 56
Lints 56
Waterproof Sheeting 56
Millikin & Lawley—Osteology, &c. .. 11
Pope & Plante—
Elastic Stockings 12
Abdominal Supporting Belts 12
Robinson & Sons—Gas gas Tissue 56
Syrun, Josephine & Co.—
Corsets and Belts..... 11
Watson & Sons—
Radium Applicator 14

MINERAL WATERS:—
Bromley Hitter Water Co.—Bromley.. 17
Apollinaris Co.—Apenta 62

MINERAL WATERS—(Continued). PAGE
Harrow's Malvern Waters 62
Canwal, Ltd.—Canwal 62
Centrevville Pavilion..... 14
Davis—Tarasp Water 62
Ingram & Royle, Ltd.—
Vichy 62
Evian Source (Cachat)..... 62
Kissingen Mineral Waters 62
Salutaris Water Co.—
Salutaris Water 14
Vilmoorins..... 14

PHOTOGRAPHY:—
Martin—Developing Rollable Film .. 85

PRINTERS & ENGRAVERS:—
Cooke & Co.—
Brass Name Plates and Lamps 12

SANITARY APPLIANCES, &c.:—
Lysoform Co., Ltd.—
Lysoform 10
Pannett & Johnson—
Knot-Knect 61
Joyce' Sanitary Compounds Co.—
Cyllin 49
Simon Bros.—
Hall's Distemper 54

SURGICAL INSTRUMENTS, &c.:—
Evans & Wormull—
Forpuse Clamp Forceps 10

TAILORS, BOOTMAKERS, &c.:—
Dowie & Marshall—Boots 10
Ellis's Rubber Heel Co.—
Rubber Heels 11
Fisher & Sons, Tailors 12

TYPEWRITING, &c.:—
Cambridge Typewriting Agency, Adelphi 62

VACCINE LYMPH:—
Allen & Hanburys—
Calf Lymph 35
Hines—Glycerinated Calf Vaccine 55
Jenner—Institute for Calf Lymph 55
Robman—
Glycerinated Pure Calf Lymph .. 8
Renner's Calf Lymph Establishment.. 55
Wyleys, Ltd.—Calf Lymph 55

WINES, BEER, SPIRITS, &c.:—
Buck & Co.—
"G. B." Diabetic Whisky 62
Bowen & Mackenzie—
Perse—Palace Bolero 16
Glen Alva Whisky 15
Brown & Pank—
Fine Vintage Brandy 60
Dunville's Irish Whisky 19
Fine Sherry—
Ambassador Port Wine 62
Gautier's Liqueur Brandy 62
Mackenzie & Co.—
Pure Highland Malt Whisky..... 61
Martell's Three Star Brandy 19
Tanqueray, Gordon & Co.—
Dry London Gin 19
Whiteway's Devonshire Ciders 61

MISCELLANEOUS:—
Box 5/0 manifold— Pocket Set 15
" 5/1. " —Tennis Set..... 15
Tuck—Open Air Shelter Facade 15

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, *accompanied by a remittance.*

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

ADVERTISING.

Books and Publications	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto.	0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto.	0 4 6
	Every additional line	0 0 6

Situations Wanted: First 30 words, 2s. 6d.; per additional 8 words 6d.

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s

OFFICES 423 AND 424, STRAND, LONDON, W.C.; AND 1, 2, AND 3, BEDFORD STREET, ADJOINING.

Discours
SUR
LES CONDITIONS GÉNÉRALES DES ÉTUDES MÉDICALES ET DE L'ASSISTANCE PUBLIQUE À PARIS,
À PROPOS DU VOYAGE DES MÉDECINS BRITANNIQUES.

PAR LE DOCTEUR LUCAS-CHAMPIONNIÈRE,
CHIRURGIEN DE L'HÔTEL-DIEU; MEMBRE DE L'ACADÉMIE DE MÉDECINE.

LE voyage de nos confrères Britanniques à Paris a été un grand succès pour nous. Tous ceux d'entre nous qui avions été à Londres en Octobre avions conservé de l'accueil de nos hôtes un souvenir si parfait que nous avions à cœur de leur en témoigner notre reconnaissance et de leur montrer qu'à Paris nous ne manquions pas de faits et d'établissements scientifiques dignes de leur attention et bien prêts pour leur examen. Nous avons eu une première satisfaction: nos confrères sont venus nombreux. Les maîtres les plus éminents ont bien voulu se mettre à leur tête. Ils n'ont point redouté la fatigue, se sont mêlés à toutes les fêtes et ont donné par leur parole un éclat singulier à toutes nos manifestations scientifiques.

Dès son arrivée sur la terre Française Sir Dyce Duckworth nous avait adressé en un Français correct et élégant un aimable salut au nom de tous les confrères Britanniques. Sir William Broadbent chaque jour, et plusieurs fois par jour, avec la bienveillance et la finesse d'esprit qui le caractérisent a pris la parole au nom de tous ceux qu'il présidait. Le Professeur Clifford Allbutt à la Sorbonne comme au banquet en un Français bien clair et plein d'érudition nous a montré combien il avait su conserver de la science Française qu'il était venu étudier. En Français aussi le Professeur Pye-Smith nous a parlé. Il a même à l'Hotel-Dieu rappelé ses souvenirs de Trousseau qui ont été au cœur de tous les élèves de ce grand maître. En Français encore les deux discours fort remarquables prononcés sur la tombe de Pasteur par le Docteur Kingston Fowler, doyen de la Faculté de Médecine de l'Université de Londres, et par le Docteur Augustus Waller, chef des Laboratoires de l'Université de Londres. Tous deux ont été remarquables par la facilité de leur élocution, par la perfection de leur langage et par la très juste et vraiment éloquente appréciation de l'œuvre de notre grand Pasteur. J'ai été personnellement très enchanté d'entendre le Professeur Waller émettre cette pensée très philosophique sur laquelle j'ai pour ma part insisté il y a quelques années: "Nous sommes encore trop près de Pasteur pour juger l'œuvre et le savant. Il faut le recul du temps pour apprécier justement les découvertes qui ont transformé la science actuelle et qui auront sur la science future une répercussion que nous ne pouvons soupçonner." En Français encore un discours du Docteur Georges Ogilvie, qui nous avait déjà habitués à Londres à sa bienveillance d'une part et d'autre part à sa parfaite connaissance de notre langue, de nos habitudes, de notre esthétique et même de notre quartier latin.

Si les discours en Anglais ont été moins bien compris de la masse des médecins Français ils n'ont pas été moins bienvenus ceux qu'ont prononcé Sir William Macewen, l'un des chirurgiens dont les travaux sur les maladies et opérations des os sont les mieux connus en France; le Surgeon-General Keogh, qui nous a parlé de nos grands maîtres militaires et de leur fraternité d'armes avec les chirurgiens Anglais, en chirurgien erudit; et enfin M. Lynn Thomas.

Nous sommes encore tout particulièrement reconnaissants aux dames Anglaises d'être venues nombreuses. Elles ont donné aux fêtes un grand éclat. Puis mêlées aux dames Françaises qui les ont reçues, elles nous ont donné la preuve que si une union scientifique entre les peuples est d'importance capitale, l'union morale, intellectuelle et familiale par les dames donne à l'union par la science tout le charme qui lui aurait manqué.

Ce n'est pas à un Français de décrire les fêtes de cette rencontre pourtant je tiens à dire que j'espère que le caractère principal de celles que le comité avait organisées comme de celles qui ont été données en dehors de lui a bien été une confraternelle cordialité. A l'Hôtel de Ville même, il se trouve que le Président du Conseil Municipal, le Docteur Brousse, est un médecin des plus estimés. Il avait tenu à ce que les médecins Britanniques ne l'oubliassent pas.

Je voudrais à propos de cette visite rappeler à nos confrères Britanniques, à ceux qui sont venus nous visiter, comme pour ceux qui n'ont point parcouru les hôpitaux Français, quelles sont pratiquement les conditions de nos établissements scientifiques et de nos établissements de bienfaisance. Au cours de ces journées j'ai été souvent interrogé sur plusieurs points, sur certaines conditions de notre éducation médicale et sur certaines conditions de notre assistance publique qui ont paru surprendre nos confrères. Certaines conditions leur ont paru peu comprehensibles. Certaines dispositions leur ont paru mauvaises. Je voudrais leur montrer ici les différences capitales qui séparent nos institutions et qui expliquent bien des divergences.

Un fait domine toutes nos institutions. En Grande Bretagne l'effort individuel est toujours libre et encouragé. En France des institutions de commune et d'état le remplacent souvent et l'empêchent de se développer. En Grande Bretagne nombreux sont les groupes dont on a respecté l'autonomie. En France centralisation à outrance. Les deux systèmes ont des avantages et des inconvénients et cadrent avec les mœurs très différentes des deux pays. Mais s'il est juste pour ceux qui souffrent d'un système de s'en plaindre il est juste aussi d'en reconnaître les avantages.

L'enseignement médical est avant toutes choses tout particulièrement centralisé puisque Paris, à lui seul, produit beaucoup plus de médecins que les six autres Facultés Françaises de province ensemble. La faculté de Médecine de Paris représente théoriquement une agglomération de six mille étudiants en médecine en cours d'étude. On conçoit qu'une pareille agglomération doive échapper à toute surveillance disciplinaire et l'on peut dire qu'à Paris l'élève de l'enseignement supérieur est en état de liberté absolue tandis que l'élève de l'enseignement secondaire (lycées et écoles d'enseignement) était dans un état de surveillance et même de réclusion, ce qui est déjà bien différent de ce que l'on voit dans le Royaume Uni. Sauf certaines conditions d'examen et d'actes de présence pour certains travaux (anatomie et physiologie) il est absolument libre de travailler beaucoup ou de ne rien faire du tout. Les hôpitaux Parisiens ne sont pas comme les grands hôpitaux de Londres, des écoles et des centres d'enseignement. Cependant ils jouent dans cet enseignement un rôle considérable. La Faculté de Médecine leur emprunte bien quelques services pour en faire des services de clinique médicale ou chirurgicale. Mais ce n'est là qu'une très faible ressource pour l'enseignement clinique. Celui-ci est surtout du à la liberté absolue qui règne dans les hôpitaux Parisiens. Aux heures de visite, tout étudiant comme tout médecin a la droit, la liberté absolue de pénétrer partout. Il peut suivre toute visite. Il peut être appelé par le chef de service à participer à l'enseignement donné dans le service.

Le concours a fait de tout chef de service un professeur. Habitué par la préparation du concours, à la parole à la leçon impromptue, malgré l'absence de toute mission officielle, par coutume et par tradition, le chef de service est partout un maître qui peut se faire entendre. Beaucoup de ces services, sans qualification officielle, ont été des centres d'études considérables et sont connus dans le monde entier.

Les études cliniques des élèves ont surtout pour fondement l'organisation du concours de l'internat. Les élèves dans les hôpitaux, les aides directs des chefs de services sont les externes et les internes. Ils ne peuvent les choisir que parmi eux. Deux degrés de concours les mènent au titre et à la fonction. Ils représentent une minorité, car les élèves en cours d'études à la Faculté de Médecine de Paris étant estimés au nombre de six mille, il y a seulement 750 externes et 240 internes. Les externes sont nommés pour trois ans; les internes pour quatre ans. Cela ne fait qu'un millier d'élèves, c'est à dire un sixième de ceux qui seront qualifiés pour l'exercice de la médecine. Mais on remarquera surtout le petit nombre des internes: 60 à 70 au plus chaque année deviennent internes. Le travail de préparation de cet internat représente un effort considérable, une éducation préalable extrêmement complète. Il en résulte que nos aides dans les hôpitaux ont déjà par eux même des titres personnels et une véritable valeur scientifique. Mais il en résulte aussi pour eux une durée considérable des études proprement dites.

Un bon élève qui passera par l'externat et l'internat n'arrive guère à l'externat qu'en troisième, à l'internat en quatrième ou en cinquième année d'études médicales proprement dites et souvent plus tard. L'internat durant quatre ans ses études proprement dites sont de huit à dix années au moins. En compensation, la pratique hospitalière en fait un sujet très expert en clinique médicale, chirurgicale ou obstétricale. Il a quatre ans d'expérience hospitalière incomparable. Ce système a même pour l'éducation générale de très grands avantages car les internes agissent habituellement comme maîtres vis à vis des autres élèves. L'enseignement mutuel est très en honneur dans les hôpitaux de Paris.

Cet enseignement est très peu coûteux pour les élèves car tous ceux qui conduisent ces études cliniques ne reçoivent aucune rémunération. Un nombre seulement de médecins ou chirurgiens reçoivent de la Faculté de Médecine une petite somme pour prendre soin des élèves stagiaires, c'est à dire de tous les élèves non externes ni internes qui sont obligés de passer deux ans dans les services des hôpitaux et de justifier que pendant ce temps ils ont étudié la clinique. Le service des externes et internes compte pour ce stage.

Tous les chefs de service des hôpitaux ont été nommés à la suite de concours, c'est à dire qu'il leur a fallu justifier en public de leurs aptitudes pour la clinique, de leur éducation générale et de leur aptitude à parler et à écrire scientifiquement. Le concours a ses défauts et ses qualités. Il a comme qualité incontestable de donner un ensemble de médecins nécessairement instruits. Une fois qu'ils sont entrés par le concours des hôpitaux ils occupent les places successivement par une hierarchie fondée sur l'ancienneté de nomination. On remarquera que presque tous les chefs de service ont commencé par être internes.

L'organisation des hôpitaux est sans analogie avec celle des hôpitaux Britanniques issus de l'initiative privée. L'administration de l'Assistance Publique, à coté de laquelle les établissements de bienfaisance privée ne représentent qu'une infime minorité, est chargée de toutes les formes de secours au pauvre, à l'indigent. L'indigent qui habite Paris a un véritable droit à ce secours. Les ressources de cette administration viennent de ses propriétés personnelles issues de dons généreux, de certains droits qui lui sont attribués (droit des pauvres ou contributions de tous les spectacles) et d'une subvention de la ville de Paris. Son budget annuel dépassé 45,000,000 de francs. Le but qu'elle poursuit c'est de répondre au droit qu'à Paris tout indigent a d'être hospitalisé ou secouru. De fait ce programme est réalisé. On peut constater qu'aucun des malades pauvres voulant entrer à l'hôpital n'est refusé. Cette facilité d'accès amène même quelques conditions fâcheuses pour le service.

Malgré d'énormes efforts financiers les hôpitaux de Paris sont loin de pouvoir fournir une place normale aux pauvres malades. La population pauvre s'est augmentée bien plus que la population riche. Aussi pour ne refuser aucun malade les services s'encombrent de lits supplémentaires. Cela donne à nos salles un aspect particulier. Déjà les lits normaux des malades y sont plus rapprochés que dans la plupart des hôpitaux Anglais. Mais lorsque de brancards ont été mis le lits sont extraordinairement serrés. Dans mon service de l'Hôtel-Dieu, où j'ai 56 lits reguliers souvent, en hiver surtout il y a plus de cent malades. Il arrive qu'outre les brancards il y ait des matelas à terre lorsque les lits supplémentaires ont manqué. C'est là sans doute quelque chose de très mauvais pour le service. Les accumulations de la population en certaines régions font que certains hôpitaux sont plus particulièrement encombrés: Hôtel-Dieu, Lariboisière, St. Louis, Beaujon. Dans l'hôpital dont les habitants sont ainsi doublés le budget reste le même et le personnel est aussi le même. Il en résulte une surcharge difficile pour les finances et un surmenage effrayant du personnel de service.

L'encombrement dans les services de chirurgie a des conséquences particulièrement graves. On doit le redouter d'une façon spéciale parcequ'il crée des chances d'infection. On a cherché à remedier aux inconvénients de la promiscuité. Quelques chirurgiens ont voulu subdiviser les services en services de suppurants et services de non suppurants. Mais d'une part cette séparation n'est pas facile à réaliser. Elle exige une appropriation spéciale des locaux qui ne se trouve que dans les hôpitaux neufs. Enfin, elle n'est utile que là où la méthode de Lister n'est pas rigoureusement employée. Il suffirait sans doute d'écarter certains sujets des services généraux. Malheureusement ces sujets y sont toujours conservés, les anthrax, les grands phlegmons septiques, les infections puerpérales. Ce n'est que depuis peu que les érysipèles ont été enlevés des services de chirurgie d'une façon systématique. La création de nouveaux hôpitaux est le véritable remède. On le poursuit.

Nos confrères ont pu voir qu'à Paris comme à Londres les maladies contagieuses ont été isolées systématiquement. Il y a des services spéciaux pour la variole, la scarlatine, la diphtérie, la rougeole. Toutefois il y a chez nous deux infériorités marquées. Les meilleurs hôpitaux d'isolement ne sont pas encore terminés et l'isolement a été fait d'abord dans des locaux insuffisamment appropriés. Puis surtout nos mœurs n'ont pas été favorables à l'application de la loi sur les maladies contagieuses, le public et souvent les médecins eux-mêmes n'ont pas obéi à la loi; cependant depuis quelques années de grands progrès ont été faits. Pour la variole en particulier l'isolement d'une part, et les mesures de vaccination générale l'ont fait disparaître dans une large mesure. L'hôpital des contagieux de l'Institut Pasteur représente une forme très particulière de l'isolement des malades séparés en chambres individuelles. Il s'agit là d'une expérience faite à très grands frais.

Les hôpitaux à Paris sont d'aspect très irreguliers. Les uns sont vieux et mal construits pour l'usage. Les autres sont plutôt trop luxueux. C'est le cas des derniers construits comme l'Hôpital Boucicaut. C'est un fait que l'on observe un peu partout. Il est pardonnable pour une administration autonome comme celle de l'Institut Pasteur dont la mission est de faire le mieux possible. Elle n'est pas pardonnable à une administration qui est chargée de ménager le bien des pauvres. Elle n'est pas pardonnable pour les agents de cette administration, les médecins et les chirurgiens qui devraient en toutes circonstances rechercher les moyens les plus économiques en même temps qu'ils sont les plus sûrs pour la guérison des malades.

Un fait a paru frapper nos visiteurs, le temps considérable consacré par chacun de nous à notre service d'hôpital. Ce service est fait chaque matin par le chef de service lui même et ordinairement entre neuf heures et midi toute la matinée est consacrée par lui à son service hospitalier. En chirurgie, dans la journée et la nuit seulement les cas d'urgence sont opérés par les chirurgiens recemment nommés dont la fonction est d'abord de remplacer les chirurgiens titulaires. Ils sont de garde tour à tour et appelés au telephone par les internes constamment en service à l'hôpital. En compensation de ce travail local très intense un médecin ni un chirurgien n'est jamais comme à Londres attaché à plusieurs établissements hospitaliers. Pour ses services le médecin ou le chirurgien ne reçoit pas de paiement à proprement parler. Il lui est alloué une *indemnité* pécuniaire insignifiante. A l'Hôtel-Dieu je touche chaque mois cent francs excepté en cas de congé ou ces cent francs sont remis à mon remplaçant.

A Paris les études scientifiques sont complètement séparées des études médicales proprement dites. La Sorbonne, la Faculté des Sciences, le Collège de France, le Jardin des Plantes forment des services éloignés et distincts. Malgré l'importance du Musée du Jardin des Plantes nous n'avons point de Musée comme le Musée Hunter où soient réunies toutes les pièces concernant toutes les sciences naturelles, y compris la médecine. Sauf l'Hôpital St. Louis qui a un musée composé surtout de pièces moulées consacrées à la description des maladies de la peau et le musée de l'Hôpital Necker consacré aux maladies des voies urinaires il n'y a dans les hôpitaux aucun musée d'anatomie pathologique. C'est un grand malheur pour les hôpitaux où les autopsies sont faites plus souvent qu'en Angleterre et où on aurait amassé des collections importantes en conservant une petite partie des pièces qui ont été étudiées.

Nos confrères ont aussi remarqué la grande différence qui existe entre leurs hôpitaux et les nôtres pour le personnel des aides. Nos aides médecins sont instruits et laborieux et relativement nombreux mais ne sont pas choisis par nous. Ils coûtent fort peu à l'administration. Les externes ne sont pas payés et les internes le sont très misérablement. Le personnel d'aides non medical est bien loin de celui que nous avons vu dans les hôpitaux de la Grande Bretagne. Il est payé mais d'une façon tout à fait insuffisante. Il se compose d'un très petit nombre de surveillantes et pour deux hôpitaux encore, de religieuses qui dirigent le personnel d'infirmiers ou d'infirmières dont malheureusement la fonction est habituellement mixte et qui s'occupent alternativement des soins de propreté de la salle et des soins medicaux des malades. Depuis quelques années l'Assistance Publique a pris à cœur la modification de cette situation. De très grands efforts sont faits pour avoir un corps d'infirmiers

...out à fait séparé de celui des sanitaires. Mais la question de dépense qui applique à tous les établissements hospitaliers met en présence de frais enormes fait que la solution de cette question sera très lente à obtenir. Nous devons nous résigner pour longtemps à une grande infériorité sur ce point.

Pour prendre une idée des obligations de l'Assistance Publique, il ne faut pas oublier qu'en dehors d'hôpitaux, elle a la charge des bureaux de bienfaisance, c'est à dire des secours directs en ville, des accouchements des pauvres, des enfants abandonnés, des vieillards infirmes, des établissements pour les maladies contagieuses, et qu'elle possede en province nombre d'établissements de convalescence ou de traitement et de vieillards. Sans doute ces charges enormes font que chaque malade ou chaque pauvre secouru n'est pas secouru avec autant de luxe ou autant de confort qu'on le fait à l'étranger. Mais il est probable que le secours atteint un plus grand nombre d'individus. Dans la ville de Paris l'indigent est fort de son droit et vient demander les secours ou l'entrée à l'hôpital non comme une faveur, un fait de charité, mais comme un droit. L'administration de l'Assistance Publique a été l'objet de bien des critiques. Cependant, la diffusion des secours est bien réelle non seulement pour la maladie, mais pour les accouchements qui ont un service d'hôpital et de ville réellement bien organisé.

Il existe à Paris un bon nombre d'établissements privés quoique la loi recente chassant les congrégations ait fait disparaître les plus importants d'entre eux. L'Institut Pasteur est une rare exception parmi les établissements parcequ'il est absolument œuvre privée. On a vu l'admirable installation de ses services scientifiques et l'établissement de son service hospitalier qui est en voie d'achèvement. L'Assistance Publique n'est là pour rien. Le luxe hospitalier est considérable mais combiné avec le développement parfait des services scientifiques.

Nous espérons que malgré la brièveté de leur séjour nos confrères Britanniques auront pu prendre une idée nette de nos institutions. Ils auront pu voir surtout combien est facile l'accès de l'hôpital aussi bien que celui de tout centre d'enseignement. Sans doute la différence des langues crée un obstacle sérieux, le nombre des Français parlant couramment l'Anglais n'étant pas très considérable. Cependant ce n'est pas là un obstacle insurmontable. Aussi, nous espérons bien que cette visite trop rapide leur aura donné de sérieuses idées de retour. L'entente parfaite des deux nations devrait s'accompagner d'une entente scientifique très profitable aux deux nations. Le groupement des maitres de la science médicale des deux nations projeté par M. Sillonville qui a eu l'idée première de ce rapprochement paraît susceptible d'un très grand développement. Les mœurs et les habitudes scientifiques sont si différentes en France et en Angleterre que ce rapprochement sera riche d'enseignements pour les deux pays. Les deux visites réciproques nous ont montré que malgré ces divergences, la cordialité de l'accueil, l'analogie de la libérté de l'esprit philosophique, le désir de la marche vers le progrès pacifique, ont tout préparé pour cette union scientifique dont le début remonte aux siècles passés.

Nos confrères ont pu voir que l'activité scientifique est considérable en particulier dans nos hôpitaux. De tout temps les études cliniques ont été en honneur en France. Elles sont poursuivies chez nous avec une grande liberté qui nous paraît très profitable pour tous ceux qui veulent les suivre et en apprécier le progrès.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. A. P. Y. Van den Brock has been recognised as *privat-docent* of Anatomy.—*Berne:* Dr. Otto Heller has been recognised as *privat-docent* of Hygiene.—*Breslau:* Dr. L. Fraenkel has been recognised as *privat-docent* of Gynæcology.—*Cracow:* Dr. Johann Piltz of the Praga Hospital, Warsaw, has been appointed Extraordinary Professor of Psychiatry and Neuropathology.—*Heidelberg:* Dr. R. O. Neumann of Kiel, who has been attached to the Hamburg Institute of Tropical Diseases for the last year, has been recognised as *privat-docent* of Hygiene and Bacteriology.—*Jena:* Dr. Dietrich Gerhardt of Erlangen has been appointed Extraordinary Professor of Internal Medicine.—*Lausanne:* Dr. August Weith has been recognised as *privat-docent* of Gynæcology.—*Marburg:* Dr. Martin Bartels has been recognised as *privat-docent* of Ophthalmology.—*Naples:* Dr. Agostino Insinna of Palermo has been recognised as *privat-docent* of Experimental Hygiene.

A Post-Graduate Lecture
ON
LARYNGEAL PARALYSES AND THEIR DIAGNOSTIC VALUE.

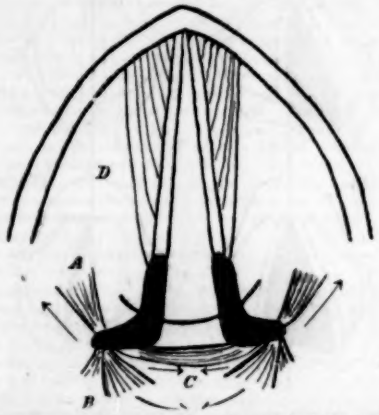
Delivered at Mount Vernon Hospital for Diseases of the Chest on Feb. 9th, 1905,

BY HAROLD BARWELL, M.B. LOND., F.R.C.S. ENG.,

LARYNGOLOGIST TO THE HOSPITAL; ASSISTANT SURGEON TO THE METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL; CLINICAL ASSISTANT TO THE THROAT DEPARTMENT, ST. GEORGE'S HOSPITAL; CONSULTING SURGEON FOR THROAT AND EAR DISEASES TO THE CRIPPLES' HOME FOR GIRLS.

GENTLEMEN,—The larynx is frequently affected by lesions of organs at a distance through disturbance of its innervation and the appearances thus produced make the laryngoscope of great importance to the physician as an aid to diagnosis; its use may be compared with that of the ophthalmoscope in cases of cerebral tumour. More especially is this the case in that many of these laryngeal palsies give rise to no symptoms whatever, and cannot be diagnosed or even suspected without laryngoscopic examination. I wish to lay stress upon this because there is a general impression that if there is no hoarseness, if the patient can speak and even sing normally, there can be no paralysis. This, however, is not the case, for in the common form—abductor paralysis—there need be no disturbance of vocalisation. As I propose to discuss only motor lesions to-day I will dismiss the superior laryngeal nerves very shortly; these are the sensory nerves of the larynx but supply one pair of muscles, the crico-thyroids. Owing to the short course of these nerves isolated paralysis of the crico-thyroid muscle is very rare but it occurs occasionally from section of the nerve—especially in suicidal wounds, and from pressure on it by tumours and enlarged glands. Lesions of the vagus above the origin of this branch will also paralyse the crico-thyroid, but the palsy, the signs of which are not well-marked, will be obscured by that of the other muscles of the cord. The action of the muscle is to render the cord tense, and when it is paralysed the affected cord remains slack on phonation and flaps up and down with respiration; the voice is not lost but is weak and easily tired. The remaining muscles are supplied by the recurrent laryngeal nerve. The crico-arytenoideus posticus is inserted into the muscular

FIG. 1.



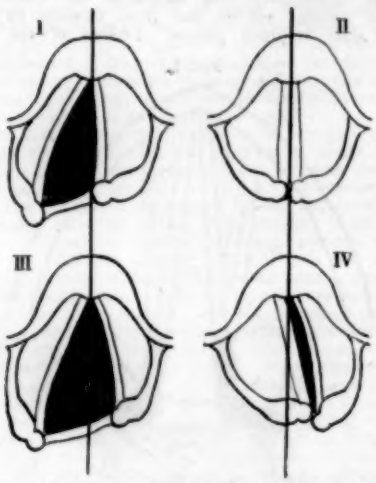
Schema illustrating the action of the intrinsic laryngeal muscles (after Watson Williams). A. Crico-arytenoideus lateralis. B. Crico-arytenoideus posticus. C. Arytenoideus. D. Thyro-arytenoideus.

process of the arytenoid and acts by rotating the cartilage about a vertical axis and so moving the vocal process outwards and abducting the cord; the lower fibres cause a gliding movement, drawing the cartilage outwards and backwards; further, by fixing the cartilage from behind it allows the crico-thyroid to make the cord tense. The crico-arytenoideus lateralis rotates the arytenoid in the opposite direction, adducting the vocal process and cord; it does not adduct the cartilage as a whole. This action, which closes the cartilaginous part of the glottis, is performed by the arytenoideus. The thyro-arytenoideus, or "internal tensor," lies along the outer side of the vocal cord which forms its tendinous margin. Acting alone it would draw the arytenoid forward and relax the cord, but when the cord is tightened by the crico-thyroid its contraction renders the edge of the cord sharp and straight.

During phonation the edges of the cords are straight, parallel, and almost in contact; on deep inspiration they are widely abducted. Most people show hardly any movement of the cords during quiet breathing; the "position of rest" is fairly constant and is maintained by a tonic action of the abductors, for in the "cadaveric position," assumed after death or in complete paralysis, the cords are distinctly nearer the middle line. In any gradually progressive lesion of the nerve path the muscles become affected in a certain definite order, the enunciation of which is known as Semon's law. The abductor (crico-arytenoideus posticus) is the first affected and may remain for years the only muscle paralysed; then the internal tensor fails, and finally the lateralis muscle becomes powerless. The arytenoideus is not paralysed in unilateral cases, for its nerve-supply comes from both recurrent laryngeal nerves.

There has been in the past a very lively discussion as to the cause of this peculiar sequence of events. Krause believes that the median position, which the cord at first assumes, is due not to paralysis but to spasm, and that the more powerful adductors overcome the weak abductor muscle; but it has been shown, especially by Semon, that the abductors are less resistant and lose their irritability sooner than the adductors; post mortem the abductor muscle is found to be early and extensively atrophied in

FIG. 2.



I., Left abductor paralysis; inspiration. II., Left abductor paralysis; phonation. III., Left recurrent paralysis; inspiration. IV., Left recurrent paralysis; phonation.

these cases, and it is improbable that a spasmodic contraction could hold the cord in the median position for years. There is little doubt that the lesion is a paralytic one and that the most vulnerable muscle succumbs first; the abductors are analogous to the extensors of the limbs, which are also more readily damaged than the flexors.

When abductor paralysis has occurred the affected cord lies in the middle line; during phonation the sound cord adducts to meet it and the larynx appears normal, but on inspiration the affected arytenoid remains in the same position, while the sound one is drawn outwards and backwards behind the level of its fellow, making the paralysed cord appear the shorter; in this position the sound cord also lies at a slightly lower level, because the crico-arytenoid joint is placed obliquely with its outer end lower than the inner. There is no alteration in the voice; as the maximum available aperture is reduced by half there will be some dyspnœa on active exertion, but in adults there is no obstruction to quiet breathing; owing to the much smaller size of the glottis in children unilateral abductor paralysis does cause dyspnœa which occasionally may be so severe as to necessitate tracheotomy.

In the cases of bilateral abductor paralysis both cords lie together near the middle line; when paralysis is complete they do not abduct at all on inspiration but, on the contrary, are drawn closer together; this is due to the shape of the cords, the sharp edges of which look upwards and inwards and act under the downward rush of air somewhat like the cusps of the aortic valves. In consequence, dyspnœa is a marked symptom, it is inspiratory and accompanied by stridor; severe paroxysmal exacerbations are prone to occur not only on the slightest exertion but also during sleep, and these may at any time prove fatal; for this reason it is advisable in all such cases to perform tracheotomy as a precautionary measure; a plug may be worn in the tube but it can be rapidly removed when dyspnœa becomes urgent. Phonation is quite good, but the difficulty in taking a full inspiration gives to the speech a peculiar breathless character.

When the thyro-arytenoid muscle fails the edge of the cord is no longer straight but forms a concave line, but the cartilaginous glottis is still well closed; the cord appears more rounded and narrower, first, because it retracts behind the ventricular band, and later from atrophy of the muscle. The voice now becomes gradually hoarser. Finally, when total recurrent paralysis has occurred the cord assumes a position between the middle line and the normal position of rest; this is called the "cadaveric position." During inspiration the sound arytenoid lies abducted and at a posterior level; on phonation it is drawn across the middle line by the unparalysed interarytenoideus and pushes the paralysed cartilage obliquely aside and usually backwards, probably because the structures of the affected cord are rendered slack by atrophy; the sound cord lies at a slightly higher level than the paralysed one on phonation. As the cords are still able to meet, the voice is not lost but it is hoarse and easily tired; it sometimes has a peculiar "rattling" quality due to the coarse vibrations of the slack cord. In bilateral recurrent paralysis, the severe dyspnœa present in the stage of double abductor paralysis passes off and the voice is lost. Both cords lie in the cadaveric position; sometimes even now a slight inward movement of the arytenoids may be seen on attempted phonation, owing to the action of a partially active arytenoideus muscle; it has been conjectured this muscle may at times receive part of its supply from the superior laryngeal nerve.

The diagnosis of cord paralysis can only be made by inspection but with the laryngoscope it is usually easy; even when the patient is very intolerant and only a fleeting glimpse of the posterior part of the larynx can at first be obtained, the view of one arytenoid lying asymmetrically behind the other is strongly suspicious and should put the observer on the track. Sometimes in nervous patients the cords are imperfectly separated, or even adducted, during inspiration and may thus assume the aspect of double abductor paralysis; if the patient is directed to phonate as long as he can, the cords will abduct naturally during the involuntary inspiration which follows. Fixation of the arytenoid cartilage may occur, sometimes from disease of the crico-arytenoid joint, but more often from adhesions around it; the cause may be syphilis, tubercle, or simple perichondritis occurring after typhoid fever, diphtheria, or other infective fever. The cartilage is usually fixed near the cadaveric position, so that the diagnosis has to be made not so much from abductor palsy as from complete recurrent paralysis. The distinction is seldom difficult, for fixation is nearly always accompanied by scars, swelling, or deformity; when this is not the case the diagnosis can only be made by observing that the immobile cartilage is really absolutely motionless and on phonation is not pushed aside by the sound arytenoid, as it is in cases of unilateral recurrent paralysis. When a cord has been long paralysed some fixation of the joint usually results and the voice becomes stronger in consequence; in such cases of old standing a

certain diagnosis between paralysis and fixation may not be possible.

We must now consider the causes of these paralyses, for on our knowledge of them depends the diagnostic value of these lesions. The larynx is an organ which has two functions, more or less antagonistic, that of phonation and that of respiration; the adductor muscles subserve the former function and the abductors the latter. Of the two, phonation is the more recently acquired and, being directly controlled by the will, has a well-marked cortical centre, situated bilaterally in the lower part of the ascending frontal convolution; stimulation of either "phonatory" centre causes adduction of both vocal cords. On the other hand, the respiratory function is older, more vital, and less under conscious control; it can be maintained by the medullary centres after ablation of both cerebral hemispheres in dogs. Although a cortical centre for abduction has been found near the phonatory centre it is less well defined. In accordance with this functional disturbances always produce paralysis of the phonatory mechanism, while organic lesions paralyse the abductor muscles. From these considerations it appears that no unilateral lesion above the bulbar nuclei can paralyse the cords, for they are controlled by both cerebral hemispheres; and that if both tracts from the cortex are destroyed the resulting paralysis must affect both cords and be adductor in type, as in a case reported by Eisenlohr. And this is in accordance with clinical experience; in cases of hemiplegia, even with aphasia, the larynx is not paralysed any more than are the muscles of respiration. Four cases are recorded (two by Déjerine and two by Garel and Dor) where unilateral cerebral lesions appeared to cause unilateral paralysis of the opposite cord; but as in all four the cord assumed the cadaveric position it may well be argued with Horsley and Semon that the lower neuron must have been affected, for the abductor function is controlled by the bulbar nuclei.

From the bulbar nucleus the nerve fibres pass in the roots of the bulbar-accessory to the vagus and thence to the recurrent laryngeal; the lesion causing paralysis may, therefore, be situated (1) in the medulla, (2) at the base of the brain, (3) in the vagus, or (4) in the recurrent laryngeal nerve. The cause is often hard to find, according to Lermoyez[1] it remains undiscovered in more than a third of cases; recurrent paralysis occurs twice more often in men and twice more often on the left side.

In cases of paralysis from bulbar disease and from lesions at the base of the brain neighbouring nuclei are prone to be affected as well; the soft palate, uvula, and pharynx are supplied from the bulbar-accessory centre; paralysis of one cord and of the same side of the palate is an important symptom-complex and points to nuclear disease; a few rare cases have been recorded of paralysis of cord, palate, sterno-mastoid, and trapezius from involvement of the bulbar and spinal-accessory roots. Persistent frequency of the pulse, due to disease of the cardio-inhibitory centre, is an important sign of bulbar disease. Paralyses of bulbar origin are frequently, but by no means always, bilateral. Tabes dorsalis is the commonest cause of cord paralysis of bulbar origin and is so common that it should always be thought of in cases of palsy of uncertain causation; it may affect one or both cords. Though usually associated with other better known symptoms, it may be for years the only discoverable lesion; Lermoyez states that 34 out of 100 tabetics had laryngeal troubles. Other laryngeal neuroses are found in tabes—anæsthesia, paræsthesia, and the so-called "laryngeal crises"; these begin with a series of coughs resembling whooping-cough, the glottis being closed by a spasm which is occasionally so severe and prolonged as to prove fatal. In general paralysis abductor palsy is not uncommon; Permewan observed it seven times in 34 cases. Syphilitic nuclear disease, gummata at the base of the brain, and syphilitic pachymeningitis are fruitful causes of laryngeal palsy; the ocular muscles, especially the external rectus, are often affected as well. In bulbar paralysis laryngeal palsy is the rule and is nearly always bilateral, but it rarely appears until late in the disease, when the tongue is atrophied and the palate and pharynx are paretic. Syringomyelia and amyotrophic lateral sclerosis are rarer causes; disseminated sclerosis seldom produces paralysis, but the intention tremors may be well seen in the larynx.

Of peripheral causes, neuritis is probably a more frequent factor than was until lately supposed. Several forms may be distinguished; toxic, due by far the most often to lead, rarely to alcohol and arsenic; and infective, due chiefly to diphtheria, less often to typhoid, influenza, and other fevers; in such cases other typical lesions of neuritis will usually coexist. Some cases of paralysis occurring in the course of tubercle or syphilis may be explained by a neuritis. In addition there are cases of so-called primary neuritis similar to cases of Bell's facial palsy where the paralysis is transient and the only cause appears to be "cold." Here one may mention those cases where the posticus muscle seems to have been directly injured by the passage of a large or hard body down the œsophagus.

In lesions of the vagus above the origin of the superior laryngeal nerve the sensory fibres from the larynx are involved, producing at times anæsthesia or reflex bilateral spasm of the glottis. Peripheral lesions, however, more often affect the vagus below this level or the recurrent laryngeal nerve; they are rarely bilateral. Traumatism is a rare cause; perhaps it most often results from a surgical operation, especially excision of the thyroid gland or œsophagotomy; the cord, of course, assumes at once the cadaveric position. Paralysis is usually due to compression of the nerve and the most frequent causes of this compression are, in order, (1) aneurysm; (2) enlarged glands, usually tuberculous, sometimes syphilitic or malignant; and (3) cancer of the œsophagus. Rarer causes are mediastinal growths, pulmonary tubercle, goitre, cancer of the lung, pleurisy, and massive pericardial effusion.

Of all causes of laryngeal palsy aneurysm is the most frequent, though tabes comes not far behind. The left cord is the most often affected owing to the course of the left recurrent nerve but an aneurysm of the innominate may compress the right cord and bilateral paralysis has resulted from a very large aortic aneurysm and from the simultaneous presence of two aneurysms. In addition to paralysis the pressure of an aneurysm may cause glottic spasm, not by compressing the recurrent nerve which contains no afferent fibres except some of muscular sense but by irritation of the vagus or trachea; the same irritation causes the cough of aneurysm which has as a rule a peculiar "brassy" quality, though if there is complete paralysis of a cord it loses this character and becomes "wheezy" like the cough of a cow. Finally, in cases of aneurysm dyspnœa may result from pressure on the trachea or a main bronchus; if the trachea is compressed the narrowing may be visible with the laryngoscope or a pulsating area may be seen; according to Moritz Schmidt[2] a slight pulsation of the tracheal wall where it is crossed by the aorta may sometimes be seen in healthy persons. In a doubtful case of thoracic tumour I believe that paralysis of the left cord is somewhat in favour of aneurysm rather than of a mediastinal new growth. This paralysis of the left vocal cord is often the earliest, and for some time the only, sign of thoracic aneurysm; a small aneurysm in the concavity of the aortic arch may early cause laryngeal palsy but for a long time elude all attempts at diagnosis. For this reason the prognosis should always be guarded in cases of cord paralysis; on the other hand, though few cases recover their mobility, unilateral palsy is not dangerous in itself and may be due to some harmless cause, such as an enlarged bronchial gland, so that the outlook is not necessarily grave.

Tuberculosis is a fairly frequent cause of recurrent paralysis, either by pressure of bronchial or tracheal glands, when the left cord is generally attacked, or by involvement of the nerve in a tuberculous infiltration at the apex of the lung; the right recurrent nerve lies close to the pleura and is the most often affected in this way—so much so that unilateral paralysis of the right cord should always suggest the possibility of phthisis. In addition the laryngeal muscles may be damaged by infiltration or degeneration in tuberculous laryngitis or by functional failure from general weakness. Of peripheral causes of bilateral paralysis cancer of the œsophagus and goitre are the most frequent. The association of laryngeal palsy with a thyroid tumour, though suspicious, is no conclusive proof of malignancy. An innocent goitre may affect the recurrent nerve, especially if growing rapidly or becoming inflamed or if hæmorrhage occur into a cyst. Compression of the trachea by a goitre can be well seen with the laryngoscope. In bilateral cases

[1] Semaine Médicale, 1897, p. 167.

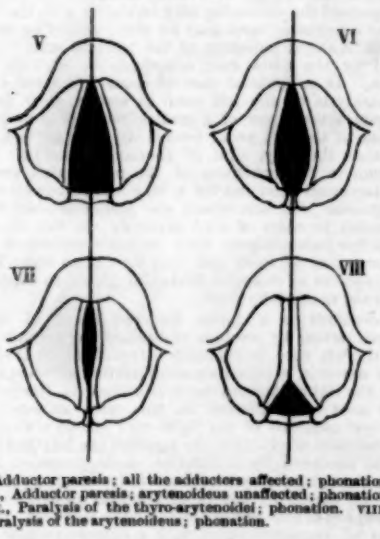
[2] Krankheiten der Oberen Luftwege, 1903.

the side-to-side compression produces a characteristic "scabbard-shaped" contraction.

A totally different class of laryngeal palsies is that which affects the phonatory function—*adductor paralysis*. This is nearly always bilateral and is not due to organic disease of the nerve path but either to a neurosis—the so-called "functional aphonia"—or to local disease, such as laryngitis, directly interfering with the action of the muscles. Functional aphonia is a common manifestation of hysteria but it should be clearly borne in mind that many cases, probably even the majority, are not purely hysterical. Anything which makes the effort of phonation greater than usual—constitutional debility, thickening of the cords, or laryngeal catarrh—predisposes strongly to this affection, which is characteristic rather of debility than of hysteria. It occurs in men as well as in women, though much less frequently, and I see a large number of such cases among consumptives at the Mount Vernon Hospital. In purely hysterical cases the cough is usually not aphonic; the onset is sudden, as also is the recovery, for many cases regain the use of the voice, as it were miraculously, on the application of the faradic current or a strong astringent.

Paralysis is very seldom complete, usually amounting only to an imperfect apposition of the cords; unilateral adductor paralysis is extremely rare; it is due to local interference with the muscles and in a few cases to toxic causes. The three sets of adductors may be all affected, or the arytenoideus may escape, or the thyro-arytenoidei may be affected alone. The arytenoideus may, though rarely, be paralysed alone from hysteria or catarrh; this gives rise to a very peculiar appearance, a triangular chink being left at the posterior part of the glottis. Adductor paralysis may be mistaken for complete bilateral recurrent paralysis, as the cords do not come to the middle line on attempted phonation; attention must be directed to the action on deep inspiration, for in recurrent paralysis the cords will not move, but in incomplete adductor paralysis they will now move further outwards; in complete adductor paralysis there is no difficulty, for the cords are extremely abducted well away from the cadaveric position of recurrent paralysis. These adductor paralyses thus form a marked contrast to the group of abductor palsies; they produce a prominent symptom, aphonia, which attracts early attention, they are

FIG. 3.



V., Adductor paresis; all the adductors affected; phonation. VI., Adductor paresis; arytenoideus unaffected; phonation. VII., Paralysis of the thyro-arytenoidei; phonation. VIII., Paralysis of the arytenoideus; phonation.

not due to serious organic disease and they are not in themselves dangerous to life.

In conclusion, I would again remark that in a knowledge of the appearance and of the causes of laryngeal paralyses we have an important aid to diagnosis in many obscure cases, an aid which the practitioner can by no means afford to neglect.

THE CONDITIONS AFFECTING THE DEVELOPMENT OF FLAGELLATED ORGANISMS FROM LEISHMAN BODIES AND THEIR BEARING ON THE PROBABLE MODE OF INFECTION.

BY LEONARD ROGERS, M.D. LOND., M.R.C.P. LOND.,
CAPTAIN, I.M.S.; ACTING PROFESSOR OF PATHOLOGY, MEDICAL COLLEGE, CALCUTTA.

IN THE LANCET of July 23rd, 1904, p. 215, I first described the development of flagellated organisms from Leishman bodies, and in the November number of the *Quarterly Journal of Microscopical Science* I described and illustrated the changes more fully, tracing the development day by day, flagellated forms being only found, as a rule, after three or four days. In one case, however, fully developed forms were found in 24 hours and these appeared to be more like trypanosomes than those which appeared on later dates in the other cultures. This suggested that in the case of the more rapid growth the conditions must in some way have been unusually favourable and led me to carry out a very long series of experiments to determine the optimum conditions for the development in the hope that if found they would throw light on the probable mode of infection of the diseases caused by this parasite. For many months no progress other than that of a negative nature resulted, but recently an important advance has been made which appears to me to indicate strongly the direction in which the solution will be found of the difficult question of the manner in which the infection of the disease is conveyed from one person to another. I propose in the present paper briefly to record the general results of my attempts to cultivate the parasite under different conditions and then to discuss the bearing of these on the probable mode of infection of the disease.

My observations on the development of the flagellated forms have been already confirmed by my assistant, Dr. G. C. Chatterjee, Lieutenant S. R. Christophers, I.M.S., and by Major W. B. Leishman, R.A.M.C., and Captain C. J. B. Statham, R.A.M.C., and I have very little to add to the descriptions I have already published except some minor details. In the first place I should have mentioned the very marked vacuolation which is present from the first enlargement of the organisms up to the flagellated stage in varying degrees, being most marked in large and broad forms, and least in the longest, thin, and most completely developed ones. Another interesting point which I noted early in the inquiry, but the full significance of which was only gradually worked out, is a well-marked eosin-staining body of a round or oval shape, which usually appears on the second day, and is commonly situated between the macro- and micro-nucleus. When the stage of elongation is reached it travels up to what will become the anterior or flagellated end of the now pyriform double body and carries with it the micronucleus. When the flagella first appear they are seen as short processes projecting from these eosin bodies, and at this stage they cannot as a rule be traced to the position of the micronuclei. In the later stages, especially in the separate completely developed long flagellate forms, this body is absent, while in nearly complete stages I have frequently seen it either partly or completely extruded from the organism, and then the flagella can be traced close up to the micronucleus. It is possible that this extrusion may have been due to pressure in preparing the film, but I am inclined to think that it is a part of the developmental process, although I am unable to explain its significance. This eosin-staining body has been independently described by Major Lenehan, whose term "flagella body" appears to be a good one. A more marked feature of my long experience is the uncertainty of the development of fully flagellated forms being obtained in the cultures in citrated blood, although the earlier stages are nearly always seen. Success depends very largely on the number of parasites found in the spleen blood preparations used, only those in which they are numerous, which form a small proportion of the whole, as a rule giving good results. This is especially the case when the parasites

are large and fat, the small shrunken ones, commonly met with in very chronic cases of the disease with very large hard spleen, seldom developing at all well. Again, if any micro-organisms are present and multiply rapidly the protozoal parasites degenerate and disappear. This applies especially to the presence of cocci, which are commonly found in the spleen and rarely even in the peripheral blood during the latter stages of the disease, and especially when cancrum oris is present, owing to an invasion of the system due to diminished phagocytic power of the blood, as I have several times demonstrated. On account of these various reasons I have only obtained fully developed flagellate forms in ten out of 60 attempts at culture in citrated bloods. Another marked feature is that in most of the successful cases the number of flagellated forms has been very small in proportion to the total number of the original and partly developed parasites present, multiplication of the smaller forms being a more marked feature than the pairing and elongation into flagellated forms, so that it is often necessary to examine several films carefully to find any of the latter. It is evident from this that the citrated blood is more suitable to the simple multiplication of the organisms than to their ultimate development into flagellated organisms.

The facts just recorded led me to believe that citrated blood was not the optimum condition for the flagellation of the parasites, so repeated endeavours were made to discover a more favourable medium in the hope that it would furnish a clue to the natural conditions under which the organism exists outside the human body. The results obtained so far may be briefly summarised under the following heads.

Citrated spleen blood added to sterile distilled water.—Several experiments have been made by this method but no development has ever been obtained, although in controls of the same spleen bloods in citrated normal salt solution development has been traced. As a rule the organisms disappear in three or four days in sterile water, but in one case small undeveloped forms were found as late as the ninth day, a very large number having been originally added. If, however, the water is not sterile and bacilli or cocci develop the protozoal parasites rapidly die out. As they are not likely to find their way into sterile water in nature it does not appear at all probable that water is the medium in which they live outside the human body, although they might survive long enough in it to be swallowed by some form of animal life.

Different strengths of salt solution.—The fact that flagellation of malarial parasites was found by Ross to be brought about by concentration of the blood in the mosquito's stomach naturally suggested the trial of different strengths of salt solution as a culture medium for Leishman bodies. 5 per cent. citrate of soda dissolved in NaCl solutions of strengths varying from 0·5 to 1·4 per cent. were used. The greatest strength appeared to be unfavourable to the development, but variations of from 0·5 to 1·1 did not seem to make any difference, possibly owing to the presence of such a large percentage of citrate of soda.

Anaerobic conditions.—Of greater interest and importance is the effect of excluding oxygen from the cultures, which was done either by placing the tubes in an atmosphere of hydrogen gas or by placing them in Buchner's tubes and absorbing the oxygen by caustic soda and pyrogallic acid. In either case the result was the same, for no development was ever found to take place under anaerobic conditions, although in controls of the same citrated blood in ordinary atmosphere good development occurred. On the other hand, the absence of oxygen did not appear to have any deleterious effect on the organisms, for they could be found in good staining condition up to the fourteenth day in one instance, although in the control development and subsequent degeneration had occurred before that time. Moreover, in another experiment under anaerobic conditions no development had taken place at the end of six days, although it was well marked in the control, but on now placing the anaerobic tube under ordinary atmospheric conditions development commenced and proceeded to a considerable degree. In another case in an acidified citrated blood no development took place in three days anaerobically, but on admitting the atmospheric oxygen very rapid and complete development in two days occurred, unusually long flagellated forms being obtained. It is clear from these experiments that anaerobic conditions while hostile to the development do not destroy the vitality of the organism.

In oxygen.—If the natural habitat of the organism outside the human body is in the circulating blood of some other form of animal life, then it would appear to be probable that the bottom of a test-tube containing citrated blood and covered with half an inch or more of fluid would not contain sufficient oxygen for the full development of the organism. In order to test this the supernatant fluid has been removed after the spleen blood has settled down and the tubes placed nearly horizontally to allow as much aeration as possible but no improved development was obtained in this way. Further, a number of cultures have been made by placing the citrated blood tubes in a bell jar and passing a current of oxygen through until the emergent current lit a glowing piece of wood. The results again have been negative, no difference in the rate or degree of development having been noted in these tubes as compared with the controls. It would appear from this that the abundant supply of oxygen, such as is present in circulating blood, is not specially favourable to the development of the flagellated form of the organism.

In acidified citrated blood.—The above attempts to find the optimum conditions of development having all proved unsuccessful I next turned my attention to the conditions obtaining in the stomachs of biting insects, and especially of bugs, the latter in particular appearing to me to be specially likely carriers of the disease, for the reasons to be given presently. On adding fresh blood to the stomach contents of bugs which had fed on blood within a day or two I found that no immediate crenation or dissolution occurred, so that the amount of salts present did not appear to differ widely from that of human blood. The contents of their stomachs, however, consisted of a grumous material, staining of a reddish-brown colour with Romanosky's method, and in most of the insects examined the red corpuscles had lost their shape and been broken up. The reaction was markedly acid, and this observation led me to try neutralising and acidifying my citrated salt solutions either before or after adding the spleen blood containing the parasites to the culture tubes. On adding weak hydrochloric acid to render the citrate solution slightly acid and resterilising by heat I found the solution had again become alkaline owing to some chemical decomposition. The use of citric acid got over this difficulty. On using such an acidified medium controlled by another culture of the same blood in the ordinary alkaline citrate solution (which I found has a somewhat greater degree of alkalinity than that of the human blood) very different results were obtained. Thus in the first attempt as much development took place in the acidified solution in 12 hours as is usually found in a successful culture in the alkaline medium after two days. At the end of 24 hours, however, I was disappointed to find that the development had not continued at the same rate which was discovered to be due to the solution having again become alkaline. On acidifying once more with citric acid development proceeded well and on the third day flagellated organisms were obtained and on the following day were numerous. In a control in alkaline solution only a very slight degree of development occurred—namely, slight enlargement—but no double elongated or flagellated forms appeared. In a third tube of the same spleen blood which was just neutralised the earlier stages of development only took place, while in a fourth tube which was acidified and placed in oxygen good development with the formation of flagellated bodies took place, although they were less numerous than in the acid tube in ordinary air, no advantage having been obtained from the excess of oxygen. In a third experiment portions of the same spleen blood were placed in three tubes of citrated normal salt solution. The first was allowed to remain alkaline, as in all the former cultures, and no development at all occurred, the number of parasites originally present having been small. The second was just faintly acidified with citric acid and no development occurred in this either. The third was distinctly acidified by adding twice as many drops of normal citric acid as was required to just neutralise the second tube and the tube was placed under anaerobic conditions. No development whatever took place by the end of the third day. On now placing the tube in the air very marked development of elongated pairs, some with commencing flagella, was noted on the following day and one day later very numerous fully elongated narrow flagellated forms were seen, some in pairs and some already separated. In fact, these forms very closely resembled the exceptionally long and complete forms which developed in my first successful cultures in 24 hours and which I had been striving to obtain again for the last nine months. It now appeared to be clear that the acid medium was far more favourable for

the development than the alkaline one, for in three successive cases it had given very good results while the control alkaline cultures showed little or no development under otherwise similar conditions. That the acid medium is very favourable to the development of the flagellated forms as opposed to simple division and multiplication of the small oval spleen form of the parasites is confirmed by another very marked feature of these acid cultures. It has already been mentioned that in the alkaline medium rapid multiplication of the small forms is a more marked feature than the development of flagellated organisms and that when the latter are found in small numbers very much more numerous undeveloped and partly developed forms will be present, including many of the smallest size. On the other hand, in the acid medium when the elongated pairs and flagellate forms have appeared the small oval forms are either very few in numbers or even absent altogether. This striking fact strongly indicates the acid medium to be the optimum for the flagellation of the parasite and also points to the acid-containing contents of the stomachs of some blood-sucking insect as the place in which the parasite undergoes the extra-corporeal stage of its existence. Such an acid medium is also unfavourable to the growth of bacteria, which I have shown are very inimical to the protozoal parasites under consideration. As a matter of fact, I have found the stomach contents of bugs to be, as a rule, sterile and free from bacteria, although they may be occasionally present in large numbers. Further, on two occasions I have mixed the contents of the stomach of bugs, which had recently fed, with spleen blood containing the parasites, a portion of the former having been microscopically examined to exclude the previous presence of the parasites. No development has yet been obtained in this way but it has been found that the parasites remained in good staining condition for several days under these conditions, while as the controls did not develop in alkaline citrated blood and in one case but very few parasites were present the absence of development is not surprising. The experiments at least show that the conditions are not inimical to the continued life of the parasites, but that is all that can be said at the present time.

The above facts taken as a whole strongly indicate that the stomach of some blood-sucking insect is the most likely place in which to find the natural development of the extra-corporeal stage of the parasite and that some such insect is the most likely carrier of the infection.

The nature of the parasite.—The exact nature of the flagellated organisms which I have obtained from Leishman bodies is still uncertain. On the one hand, in favour of their being stages of a trypanosoma are the facts that they so closely resemble the various forms of trypanosoma Brucei described by Rose Bradford and Plimmer, to which may be added the fact that most of the forms obtained by Dr. Thiroux in cultures of the trypanosoma Paddæ, which are figured in the Annales of the Pasteur Institute of February, 1905, resemble very closely in appearance forms which I have obtained in my cultures. On the other hand, the failure of all observers to find any trace of an undulating membrane as yet is against this view and points rather to the organism being of the nature of a hepatomonas, but I observe in the figures in S. Prowazek's paper on the Hepatomonas in the *Arbeiten aus dem Kaiserrlichen Gesundheitsamte* that he repeatedly figures a double flagellum arising from a single micronucleus, a condition which I have never seen in any of my numerous specimens. It can only be said at present that there is nothing known incompatible with the organisms being stages of a trypanosome but proof that it is so is still incomplete and it may possibly prove to be some other form of flagellate when the forms naturally developed outside its human host are discovered.

The probable mode of infection in kala-azar and cachexial fever.—In 1897 in my report on the Assam epidemic fever kala-azar I recorded a large amount of evidence to show that the mode of communication of the disease was essentially a house infection. Thus, when tracing the spread from village to village it was nearly invariably found that someone with the fever had gone to reside in a previously uninfected village and that the next cases occurred in the household in which he lived. Further, in the rare cases among Europeans some native employé in the house had suffered from the fever before the residents were attacked. Since that time I have obtained from various sources several most instructive histories bearing on this point, which it is very necessary to record in order that the danger of infection may be avoided in the future. It is not essential to give in detail all the histories of which I have notes as they are only too similar to each other. It will suffice to say that in three cases in which there was much kala-azar in the coolie lines the infected Europeans either frequently had coolie women brought to their bungalows at night or visited them in their own lines. In three more cases the Europeans each cohabited with a native woman, each of whom was actually suffering from kala-azar and in two of these cases the women were known to have eventually died from the disease. What is still more conclusive is the fact that in two of these latter cases there was no other source of infection within several miles, as the coolie lines at these places were quite free from kala-azar at the time. The importance of recognising and avoiding such a source of infection is my reason for recording these undoubted facts. One other point must be referred to in this connexion—namely, that the moving of all the healthy people out of infected lines during the cold season, when I found new cases to be at a minimum, has proved a complete preventive of the disease as long as no infected people are admitted to the healthy lines. The line first moved at my suggestion over eight years ago has remained quite free from the disease to the present day and that, too, in spite of the fact that it is situated only half a mile away from the old infected one which has now been almost depopulated by kala-azar. It will be noted that this distance is not absolutely beyond the range of mosquito flight.

The above data refer to the Assam epidemic form of the disease but I have also some facts pointing to a similar house infection applying to the endemic form of the disease in Bengal which I have named "cachexial fever." During the last year I have been able to examine all cases of this disease admitted to the European General Hospital of Calcutta and have been much struck with the frequency with which more than one member of the same family have been admitted for cachexial fever at or about the same time. Thus within this period examples of father and child, mother and child, and several instances of two children of the same family being simultaneously affected have been met with among Europeans. All these facts bear out my original contention that the disease is a communicable one and that it is usually necessary to live for a time at least in the same house with an infected person in order to contract the disease. Further it appears probable in the light of the above facts that sleeping in the same bed is especially likely to lead to contraction of the disease, for this would account for its spread among children of the poorer European and Eurasian classes as well as in the Assam cases referred to above.

When we consider the above facts in view of my experiments proving that an acid medium is best suited to the development of the flagellated forms of the parasite and remember that such an acid medium is supplied in the stomachs of many blood-sucking insects, then we are forced to the conclusion that the most likely mode of infection is through the means of some such biting insect. But as to the most likely kind of insects to carry the infection we are on more uncertain ground, for experiment alone can determine this. Nevertheless, it is worth while to discuss which are the most probable kinds in order that precautions may be taken against them without waiting for absolute proof to be obtained. The choice will obviously depend on what we believe to be the most frequent avenue of escape from the body for the parasites. Major C. Donovan, I.M.S., describes forms with a single chromatin body as occurring in the peripheral blood, but in his coloured plate published in THE LANCET,[1] and from his descriptions I have been unable to see how he distinguishes these from ring-shaped malarial parasites which they so closely resemble. No other observer appears to have been able to find any such form in the peripheral blood. I have repeatedly taken several cubic centimetres of blood from a vein during high fever, both by day and at night, in cases in which the parasites had been found in large numbers in the spleen by puncture and after separating the bulk of the red corpuscles rapidly with the centrifuge have again centrifuged the fluid part of the blood. In this way very numerous blood plates can be found in the second sediment and any Leishman bodies would be found with them, but even by this method I have failed to find any parasites in the peripheral blood so they clearly cannot exist there in any numbers unless, indeed, they are present

[1] THE LANCET, Sept. 10th, 1904, p. 744.

in a particularly minute form. On the other hand, Lieutenant Christophers has shown that the parasites are frequently to be found in papules in the skin, especially on the thighs and other parts usually protected by the clothes from mosquitoes but still open to the attacks of fleas and of the still more blood-thirsty bugs. That the stomachs of the latter are well adapted for the development of the parasites I have indicated above, and although so far I have failed to find the parasites in bugs from the beds of patients suffering from cachexial fever in Calcutta and from kala-azar in Assam (the latter having been kindly supplied me by my friend Mr. J. Dodds Price, although they could not be examined until after a four days' journey), still I am of the opinion that bugs are the most likely carriers of the disease. That they abound in the wooden beds of natives, especially in Bengal and Assam, is quite certain, while they are also a pest in the poorer native and Eurasian houses and even in native hospitals. Further work to test this hypothesis is very necessary, but I venture to think that the probability of the bug or flea being the usual carriers of the disease is sufficiently great to render it advisable to take steps to prevent the possibility of infection being carried in this way. This may be done by recognising the communicability of even the endemic cachexial fever and preventing any infected and uninfected persons sleeping in the same bed or in adjoining beds placed close together, as is such a common custom in India. This precaution is specially desirable in the case of children who are very susceptible to the disease and in whom it is also exceptionally fatal, children under ten years in particular but seldom recovering from it.

In conclusion, I desire to express my thanks to Lieutenant-Colonel Harris and Lieutenant-Colonel Drury, I.M.S., for their very kind permission to make use of their cases and to Captain D. McCay, I.M.S., and Captain J. W. D. Megaw, I.M.S., for much help in examining cultures and for many valuable suggestions.

Calcutta.

A CASE OF WIDESPREAD ULCERATION OF SKIN AND CONNECTIVE TISSUE.

BY W. BERTRAM WATSON, M.D. LOND.,

HONORARY PHYSICIAN TO THE YORKSHIRE HOME FOR INCURABLE AND CHRONIC DISEASES, HARROGATE.

IN this paper it is proposed to give some short notice of a case of ulceration of skin and connective tissue which has recently come under my observation. The patient was a man, aged 61 years, employed in business, and came under my care in August, 1904. But for a somewhat severe attack of influenza 16 years and of pleurisy six years previously, he described himself as having been a healthy man up to the onset of the skin affection shortly to be described. He had never had syphilis and there was no family history of tubercle.

With regard to the skin affection, the patient gave the following history. In 1900 he noticed a small lump in the left buttock which slowly and painlessly increased in size and was followed in March, 1901, by a second lump which developed a little higher and nearer to the spine. Both of these ultimately burst. Shortly afterwards lumps began to form in the left groin and in August, 1901, recourse was had to surgical treatment, the lumps in the back and a number of enlarged glands from the groin being removed and the parts scraped by the late Mr. T. R. Jessop of Leeds. The result of this treatment was not satisfactory and ten weeks later the scraping was repeated. After a few months these places healed, but coincident with the improvement in these situations the disease showed itself in other localities. The course from now onwards was a progressively downward one. The skin gave way in a number of places at the back of the right chest and in the loins; early in 1902 he had considerable pain in the right shoulder and arm which was followed by inflammation of skin which broke down in numerous places and formed running sores. The same process commenced in the skin of the right leg in April, 1903, and the left leg became involved in July of the same year. From 1902 he had been compelled to lead a life of invalidism, could walk only with difficulty, and had considerable pain. His general health suffered in consequence and the body weight fell from 11 stones 7 pounds in 1900 to 9 stones in August, 1904.

The accompanying illustration will give some idea as to the character and extent of the skin lesions in August of last year. The patient could move only with considerable pain. The complexion was sallow and the blood, as evidenced by the colour of the lips and conjunctivæ, was deficient in hæmoglobin. Contrary to what one would have anticipated there was no evidence of lardaceous disease and the lungs, kidneys, and other organs appeared to be healthy. In no situation were the lymphatic glands markedly enlarged. It is not necessary to give a minute description of the condition of the skin. Many of the ulcers were deep and their bases where visible were seen to be irregular, yellow, and unhealthy. They were in varying degrees of inflammatory

activity, with thin, ragged, undermined edges, and exuding thin, dirty-white pus. Some, which had entered into a quiescent state, were filled with yellowish-white grumous material. Between the skin and the bone over the shin of the right leg were several soft, semi-fluctuant tumours. On the back were scars indicating that in these situations the process of repair had been successful. With the presence of sinuses and numerous bunches of flabby, unhealthy granulations the character of the lesions, which was the same in all the localities affected, presented a complete clinical picture of tuberculous ulceration of the skin and connective tissues.

When the question of treatment came to be considered it appeared that the only possible chance of success was by means of radical surgical measures. Abscesses should be opened, fungating granulations and ulcers scraped, undermined skin cut away, and sinuses freely laid open. This would have required a series of operations under anæsthesia, which would have proved no light matter in a subject 61 years of age, exhausted by prolonged illness. This line of treatment, which was advised, was not, however, adopted as the patient was not willing to submit himself to further surgical interference. Accordingly he was kept at rest in bed and his constitution was strengthened by an abundance of good food, combined with cod-liver oil, syrup of iodide of iron in full doses, and other tonics. The ulceration of the skin was treated on ordinary antiseptic lines by means of poultices, fomentations, and dusting powder as each in turn seemed to be indicated. The arms and legs were placed in a bath for one hour daily containing lotions, carbolic acid and chinosol, perchloride and biniodide of mercury being the antiseptics used. I found that Fairchild's enzymol was of special service in clearing away dead material in deep ulcers. Salicylic cream (acidi salicylici, two parts; acidi carbolici, one part; glycerine, ten parts) also proved useful. For dusting powder I made use of equal parts of iodoform and dermatol. On one occasion with the aid of local anæsthesia I incised one of the semi-fluctuant tumours over the shin, to which reference has already been made, and found it to contain

curdy material. The effect of this treatment was remarkable. In a few days the ulcers cleaned and the purulent discharge diminished in quantity. The process of repair in the ulcerated surfaces was very rapid and after two months' persistent local disinfection the back, and after four months the whole of the areas involved (back, arm, legs) had completely healed. It is not necessary to give illustrations of the present condition as all they would show is extensive cicatrisation.

At the time of writing the patient is in excellent health. He is able to attend to business and his weight has increased to 11 stones. I thought that owing to contraction of cicatricial tissue walking would prove a difficulty and that it would be necessary to do something in order to free the action of the knee-joints. However, no further treatment of this kind has been required as their movement is quite free.

In conclusion, it may be mentioned that it was the opinion of the late Mr. Jessop, when he operated, that the case was tuberculous in origin.

Harrogate.

THE OPERATION OF JEJUNOSTOMY,

WITH A DESCRIPTION OF A NEW METHOD.[1]

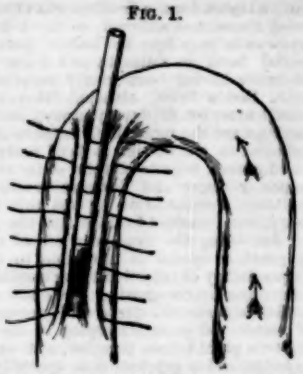
BY A. W. MAYO ROBSON, D.SC. LEEDS, F.R.C.S. ENG.,
SENIOR VICE-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

JEJUNOSTOMY is an operation occasionally called for as a means of giving relief and prolonging life in patients suffering from advanced disease of the stomach, where on exploration it is discovered to be impracticable to perform gastrectomy, gastrostomy, or gastro-enterostomy. The indications for the operation are (1) extensive cancer of the stomach too advanced for gastrectomy and in which no healthy spot of sufficient size on the stomach wall can be found for the purpose of gastrostomy or gastro-enterostomy; and (2) general cicatricial contraction of the stomach, simple in character and due to the swallowing of caustic fluid, in which the stomach has been so far damaged that it no longer performs its functions or even allows of the proper passage onwards of food. It has also been suggested in pronounced hyperchlorhydria in preference to gastro-enterostomy in order to avoid peptic ulcer of the jejunum, but as the latter is extremely rare and practically only associated with anterior gastro-enterostomy, a method that is being replaced by the posterior operation, I do not think surgeons generally will be likely to endorse Neumann's suggestions; nor do I think that it is probable that jejunostomy will be likely to replace other methods of securing rest in the treatment of gastric ulcer or of hæmatemesis, as Cackovic has suggested, and as has been adopted on one occasion with success by Mr. Willoughby Furner.

Modes of operation.—For any operation to be a success the bowel must be so placed that it will serve the two purposes: (1) to permit the passage onward of the bile and pancreatic fluid poured into the intestine above the artificial fistula; and (2) to allow of food being introduced through the fistula without fear of regurgitation, either of the food or of the intestinal contents. In my first operation, performed in 1891, I used a method which, though successful in prolonging life, was inconvenient and cumbersome and I need not mention it further.

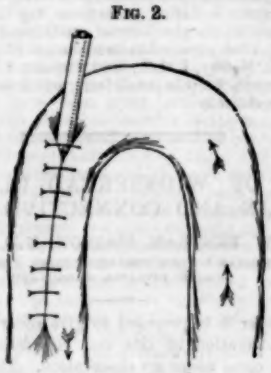
The operations now used are the following:—1. A modification of Witzel's method of gastrostomy in which a No. 12 rubber catheter is stitched into an opening in the jejunum and afterwards the catheter is buried in a groove in the bowel for a distance of about two inches, the line of suture being fixed to the abdominal wall (see Figs. 1 and 2). 2. Maydl's method of dividing the jejunum, implanting the proximal cut end into the distal portion a few inches from the original line of section, the open end of this section being fixed to the skin (see Fig. 3). 3. The operation which I have performed and which I believe is new. It consists in taking a loop of the beginning of the jejunum just sufficiently long to reach the surface without tension; the two arms of the loop are short-circuited about three or four inches from the surface, the short-circuiting being done either by means of sutures around a decalcified bone bobbin or by sutures alone; personally I prefer the former. A small incision is then made into the top of the loop just large enough to admit a No. 12 Jaques catheter, which is inserted and passed for three inches down the distal arm of the loop; this is fixed to the margin of the incision in the gut by a silk or Pagenstecher's suture and the entrance of the tube into the bowel is further guarded

FIG. 1.



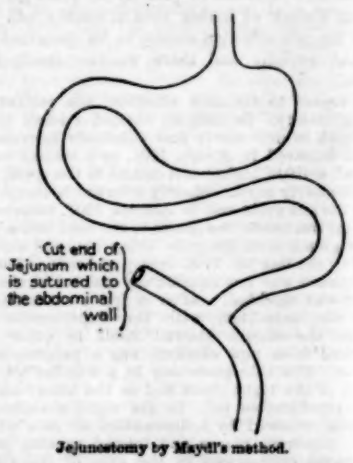
A method of performing jejunostomy by a modification of Witzel's operation for gastrostomy. First stage.

FIG. 2.



Second stage of Fig. 1.

FIG. 3.

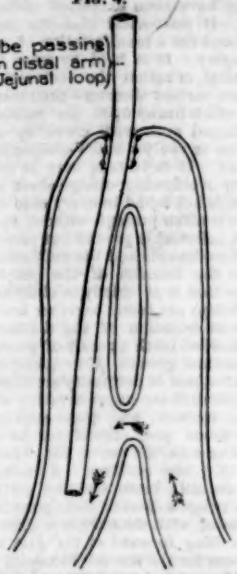


Jejunostomy by Maydl's method.

[1] A paper read before the Royal Medical and Chirurgical Society on April 11th, 1905.

by two purse-string sutures, one over the other. The top of the loop is fixed to the skin by one or two stitches and the wound is closed. The patient can then be fed at once with some peptonised milk and brandy. The whole operation can be done in from 15 to 20 minutes and with very little visceral exposure (see Fig. 4). Should the patient

FIG. 4.



Jejunostomy by the author's method, now described.

be too ill to bear the little extra time occupied by the short-circuiting the tube may be inserted as directed and surrounded by two or three purse-string sutures, a proceeding which can be accomplished in a few minutes. In this case the loop of bowel must not be brought to the skin but had better be fixed by sutures to the peritoneal margin and the aponeurosis in order to leave part of the lumen of the attached loop within the abdomen for the direct passage onwards of the intestinal fluid with the bile and pancreatic secretion. The following case affords an example of the relief that may follow this operation.

The patient, a woman, aged 46 years, was sent to see me on April 8th, 1904, when she was suffering great pain, which came on at frequent intervals, and she was vomiting five or six times a day; in fact, whenever she took food it was shortly afterwards vomited, the vomit being at times coffee-ground in character. A tumour in the epigastrium of about the size of a large flat orange could be readily felt and at short intervals the whole stomach became hard and rigid. No enlarged glands could be felt in the groin or above the clavicle. There was no tenderness on pressure and the hard nodular tumour was suggestive of cancer. Though she gave a history of indigestion and loss of health for eight years or even longer the acute symptoms had only existed for six months.

On April 13th the abdomen was opened by a vertical incision through the inner margin of the right rectus, when the stomach was found to be involved in cancer from end to end, and as the glands along the lesser curvature were involved and others could be felt passing up through the opening in the diaphragm and a number also in the great omentum, it was clearly impossible to perform gastrectomy and impracticable to do a gastro-enterostomy. A loop of jejunum was therefore brought up and short-circuited by suture over a decalcified bone bobbin and a No. 12 Jaques catheter was inserted as just described. The wound was rapidly closed and the patient was put to bed in good condition, the whole operation only having occupied half an hour or less. A meal of peptonised milk was given at once and repeated every two hours. From the time of operation up to now the vomiting has never been repeated and she has completely lost her pain. On April 23th, 15 days after operation, I wrote to Dr. ——: "Mrs. —— has made a good recovery and is now able to take a little food by the mouth, though the feeding is chiefly by the tube. She is free from pain and the tumour is less." The patient returned home on the nineteenth day, having gained flesh and strength. After the patient's return home, on May 17th, I received a reply from Dr. ——: "Mrs. —— is doing wonderfully well. No pain or sickness, and taking as much food as she requires. She is very content and is, I think, gaining flesh and strength, so that the result is even better than you had hoped for and much better than I ever expected. She is very grateful." On Oct. 10th I had a letter from another practitioner to say that Mrs. —— had come under his care in North Devon and that she had expressed herself as much improved, though there was a tumour manifest. The patient survived for a year; ascites and secondary growths developed.

The case is of interest, not only from the relief afforded by jejunostomy but also as showing the sequence of cancer on ulcer—a not uncommon incidence—and one which might be prevented by timely intervention in the pre-cancerous stage. It is now clearly proved that ulcer of the stomach is a much more serious disease than was once thought and that many cases fail to yield to medical treatment, but I do not think that it is fully recognised how frequently cancer follows on ulcer. In no less than 59·3 per cent. of the cases of cancer of the stomach on which I have operated the history, as in this case, clearly points to antecedent ulcer, the cancer being a later manifestation.

The operation of jejunostomy, which has a mortality of from 10 to 20 per cent., should be very seldom called for and would not be if the early diagnosis and treatment of gastric cancer were insisted on; but it must be distinctly recognised that if we intend to do the best for these cases we must make the diagnosis before tumour or coffee-ground vomiting leaves no doubt as to the nature of the ailment. Whenever a patient at or after middle age complains somewhat suddenly of indefinite gastric uneasiness, pain, and vomiting, followed by progressive loss of weight and energy, associated with anæmia, the possibility of cancer of the stomach should be recognised and if no improvement takes place in two or three weeks an exploratory operation is more than justified. Our diagnosis can only be rendered certain by a digital examination, which may be effected through a small incision that can if needful be made under cocaine anæsthesia with little risk. Let us not forget that the early recognition of cancer of the stomach means not only the probability of relief but the possibility of cure in a certain proportion of cases.

Park-crescent, W.

THE SECOND DENTITION: ITS MEDICAL ASPECTS.[1]

BY HUBERT ARMSTRONG, M.D., CH.B. VICT., M.D. LIVERP.,
ASSISTANT PHYSICIAN, LIVERPOOL INFIRMARY FOR CHILDREN.

WHEN it is remembered that calcification begins in the case of the first permanent molar during the twenty-fifth week of embryonic life, and that the final eruption of the "wisdom tooth," the last of the permanent set to appear, does not take place till early adulthood, and when in connexion with the lengthy intervening period the importance of a sound dentition to the general health is considered, and *vice versâ* the necessity of good health in the insurance of a sound dentition, it is obvious that the interest in the second dentition is not confined to the dental surgeon but concerns very largely the medical profession generally. It is not necessary here to enter into a description of the normal permanent teeth nor of the dates and the manner of their eruption, matters which are familiar to all of us. A passing reference, however, may be made to the first molar appearing at the sixth to seventh year. A friend informs me that the extraction of this tooth for caries and alveolar abscess was the most frequent operation which he was called upon to perform among some hundreds of youths in a naval training school to which he was formerly surgeon-dentist. This emphasises the need of a periodic examination for any

[1] A paper read before the Liverpool Medical Institution on April 27th, 1905.

early disease of the six-year-old molar and its prompt treatment when discovered. Treatment is unfortunately often postposed until too late through the parents' mistaken idea that since the tooth has not displaced any of the temporary series it consequently belongs to that set. Fortunately, if the tooth has to be extracted its loss is not very greatly felt and the later molars moving forward into its place cause none of the irregularity which attends the too early removal of a milk molar. The subject lends itself naturally to division under three headings.

1. *General or local disease as a cause of faulty dentition.*—(*a*) *General.*—The influence of rickets in retarding the eruption of the milk teeth is a matter of every-day observation and the second dentition may be similarly affected. Doubtless the majority of rickety children have outgrown their complaint and with it the inhibitory influence by the time the permanent teeth are due, but I have seen patients as old as five years who had not yet cut even a single milk tooth, and it is obvious that they would have to compress a good deal into a short period if they were to be up-to-date with their permanent successors. Rickets, too, causes overgrowth of the jaw, with consequent crowding or malposition of the teeth, and occasionally total absence of one or two has the same origin, but these are both of rarer occurrence. The teeth themselves are often tapering and occasionally notched, and the enamel, though smooth, being translucent and thin they are readily prone to decay.

Cretinism exercises in an even more marked degree a similar retarding influence. An excellent example of this is mentioned incidentally in the recently recorded case[2] of a girl nine years old who before treatment had no signs of her second dentition.

Hereditary syphilis is said to have an opposite effect—accelerating the advent of the teeth, but while it is undoubtedly the case with the first dentition I have not been able to satisfy myself that this is not one of those statements passed on from one to another and yet devoid of a reasonable foundation. I do not see enough cases of hereditary syphilis at the right age to justify a complete denial but I may add that several dentists whom I have consulted on the point have likewise refused to commit themselves to a definite opinion. In something under 50 per cent. the teeth are affected in the manner described by Hutchinson and now familiar to us as corroborative evidence of the disease under the name of "Hutchinson's teeth." Shaped like the end of a screwdriver, the upper central incisors, which are the only ones having any diagnostic significance, slope towards (sometimes away from) each other, are dwarfed laterally and vertically, and along their biting edge are hollowed out crescentically through the rapid wearing out and chipping away of the deficient enamel. While ascribed by some to syphilitic alveolar periostitis, by others to the use of mercury, it must not be forgotten that similar deformity may be produced by other disease in infancy and so great an authority as Henoch considered[3] the result one of rickets rather than that of syphilis at all.

Acute disease such as the exanthematous fevers (according to Smale and Colyer[4] particularly measles), severe attacks of bronchitis or pneumonia, and the more chronic disturbances of nutrition due to improper feeding occurring during the first two years of life when calcification is proceeding in the tips of the incisors and canines and the crowns of the first molars leave permanent results in the enamel with a disastrous sequel in the after-history of these teeth. The bicuspids and other molars, in which calcification does not begin till the third year and after, only suffer, and that less frequently, when the illness occurs after that date and then the incisors, &c., escape. The effect is a thinning or even a total disappearance of the enamel, leaving pits and grooves in these "honeycombed" teeth which invariably become the seat of early caries. Here we have an argument, if any now be needed, against the practice of exposing young children to the infection of the exanthemata "in order to get it over" and in favour of maternal or, at any rate, a rational mode of infant feeding. In the earlier attacks the germs of the later teeth may suffer such nutritional changes as to lead to their destruction and consequent absence of the corresponding tooth. Serious disease in infancy is said to cause sometimes crowding and irregularity of the teeth by arresting the growth and development of the jaw, a selective phenomenon of which I have no personal experience. At a later period acute, or even chronic, illness with the exceptions mentioned does not appear to exercise any inhibition on the eruption of the teeth.

Mercury is not often given now to the point of salivation or worse and I agree with those who ascribe defects in the teeth to the constitutional complaint for which the drug may have been exhibited rather than to its use.

(*b*) *Local.*—If retro-nasal adenoids may be considered a local disease and not a manifestation of a diathesis they fall into this category. It is held by many that the consequent mouth breathing, or rather the obstruction to nasal respiration—there are various theories—produces a partial vacuum in the nares which draws upon the palate, causing a vaulted and saddle-shaped arch with crowding of the teeth in the bicuspid region or vaulted and V-shaped arch with protrusion of the incisors. If it be true here is one more indictment in the already overflowing charge-sheet of this disease, but this condition is not found in every case of adenoids and the arched palate is often present without that complication. I know I am on debateable ground but personally I am inclined to lay both the adenoids and the malformation when they are coincident to the account of the lymphatic diathesis. It appears to me that it is chiefly in children of that type that the two conditions are found together and I should term the adenoids a manifestation of the diathesis and the arched palate and crowded teeth a result of general want of "tone" in development and growth. More indisputable and quite preventable local causes of deformity are thumb- and lip-sucking which force outward the upper alveolus with subsequent protrusion of its incisors, and finger-sucking, which acts similarly on the lower jaw, and if for no other reason these habits, together with the use of the "comforter," should be discouraged in young children. Alveolar abscesses in connexion with the milk teeth and too early extraction of the latter lead to irregularities of their permanent successors, the one by interfering with the follicle or growing tooth, the other from the travelling forward of the first molar which ensues leaving no room for the second bicuspid, pointing the lesson that the deciduous teeth need watchful attention as much in the interests of the second dentition as their own. Abscesses also cause hypoplastic defects in the teeth developing in their immediate neighbourhood similar to those determined more generally by the exanthemata.

It is beyond the range of my subject to discuss the many congenital abnormalities, such as gemination, enamel nodules, supernumerary teeth, and variations in the number of cusps and roots and their positions, or others due to causes beyond medical control. I pass now to the converse of the first section.

2. *Faulty dentition as a cause of general or local disease.*—The eruption of the permanent teeth is a physiological process and as such ought to be accompanied by few, if any, symptoms beyond the loosening and dropping out of the milk teeth which are displaced. There is no doubt, however, that a little discomfort and restlessness at night, together with a trivial rise in temperature and some salivation, so that in the morning the child's pillow is found wet through dribbling from the mouth or even blood-stained from a little oozing at the gums, are symptoms which at times accompany an otherwise normal dentition, and if they are not caused by it I have often been unable to find any other more satisfactory explanation of their presence. Pain, due to stretching of nerve filaments or to small cracks and fissures in the gums, is not uncommon, though never so severe as that of an exposed nerve in a carious tooth. A very frequent source of trouble, and at times quite serious ill-health, is found, particularly in hospital patients, in the incomplete detachment of the remnants of the first dentition. It may be due to simple want of courage in the child or perhaps to some consequence of our latter-day civilisation—for instance, a diminished use of hard food which would assist in dislodging the fragments—but, whatever the cause, it seems to be increasingly frequent to find the milk teeth, and especially the molars, retaining their adhesion to portions of the alveolar mucosa long after the supplanting bicuspid has arrived. Food accumulates and decomposes around these fragments and their short but sharp fangs cut into the cheek, causing ulcers which naturally become septic, while the odour of the breath is extremely offensive. The dread of having a tooth drawn is one of the most firmly implanted characteristics of the human being (of any age!) and I can only ascribe it to this factor, rather than to neglect or indifference, that I am constantly seeing cases of ulcerative

[2] Kendal: Case of Precocious Puberty in a Female Cretin, Brit. Med. Jour., Feb. 4th, 1905.
[3] Henoch: Lectures on Children's Diseases, vol. i., p. 123, New Sydenham Society.
[4] Smale and Colyer: Diseases and Injuries of the Teeth, p. 111.

stomatitis with this origin of weeks' and even months' duration. Needless to say, from the constant swallowing and inhalation of such poisonous stuff as the mouth is harbouring the patients are often seriously ill. The neighbouring glands are swollen and painful but, curiously, rarely suppurate, and further complications may ensue, such as necrosis of the jaw, while in weakly children cancrum oris is said to follow, but in my experience this has never occurred. Fortunately, as a rule, rational treatment results in a very speedy cure. Short of infective stomatitis the same cause in other children sets up the dyspepsia, with anæmia and general debility in its train, which is the common sequel of inefficient mastication whether due to any dental pain or, as in later life, to the absence of the means essential to its performance.

I must recur here to the question of adenoids, because there is another theory of their causation in which the growths are compared with those of weeds in a stagnant ditch. On this assumption, which is the exact reverse of the one previously mentioned, the vaulted palate is the primary mischief and the adenoids secondary. The etiology of adenoids is a wide subject; it will suffice here to have mentioned the two theories which have a bearing on dentition, with the comment that neither carries conviction to my mind.

Dentigerous cysts and odontomes, the latter a very rare form of tumour occurring only in the lower jaw, are the result of perverted development and need merely be glanced at, while an occasional gumboil is not of much moment.

The diseases actually due to the second dentition we find then are not many. The importance, however, of a sound dentition in after-life has already been mentioned. The moral for us is that, whatever the dentist may accomplish, nature only provides us with one set of teeth for that period, and that it behoves us therefore to do all in our power during its development and eruption to remove any obstructions in the way of nature's satisfactory performance of her task.

3. *The influence of dentition upon concurrent general disease.*—This, which is not very great, is manifested chiefly in the neuroses, where occasionally one comes across cases upon which dentition has an accelerating or aggravating effect. The most obvious example is in epilepsy, in which one finds that the eruption of the teeth at times initiates the onset and at others increases the frequency of the fits. It must be added, however, that in children with unstable nervous systems very slight irritations may upset the balance and convulsions are never produced in healthy children by teething alone. Hysterical conditions and chorea may likewise be aggravated by coincident dentition, especially when the latter is giving rise to any of the troubles indicated in the second section, and in any acute febrile illness I have sometimes seen the symptoms similarly intensified.

Many of the remarks under the last two headings are equally, or even more, applicable to the first dentition and to diseases of the teeth (e.g., caries) when independent of dentition, but I have excluded reference to these as irrelevant to the present discussion.

Liverpool.

TYPHOID FEVER AND PREGNANCY, WITH SPECIAL REFERENCE TO FŒTAL INFECTION.

BY H. T. HICKS, F.R.C.S. ENG.,
GYNÆCOLOGICAL REGISTRAR TO GUY'S HOSPITAL;
AND
HERBERT FRENCH, M.D. OXON., M.R.C.P. LOND.,
MEDICAL REGISTRAR TO GUY'S HOSPITAL.

THE number of published cases in which investigation has been made upon the typhoid reaction in the fœtus is small. The following case is therefore recorded by the kind permission of Dr. W. Hale White, under whose care in Guy's Hospital the patient was.

The patient, aged 24 years, had had three children and two miscarriages. She was seven and a half months pregnant when she became feverish and complained of headache. The fever increased and at the end of a week she was drowsy, with flushed face and furred tongue. The pulse-rate was 110 per minute and two typhoid spots were seen on the abdomen. On the eighth day she was delivered of a live fœtus. There was no difficulty during the labour and there was no excess of hæmorrhage. The infant weighed four pounds and died three quarters of an hour after delivery. The mother seemed much relieved after her labour; her pulse became slower and her fever ran the ordinary course for nearly a fortnight longer. Her temperature ranged between 103° and 104° F. She was frequently sponged. On the twenty-first day of the fever she was worse, her pulse became weak, and she died on the twenty-fourth day of the disease. At the necropsy there were found typical typhoid ulcers throughout the ileum, cæcum, and ascending colon. Involution of the uterus had taken place normally. The placental site looked natural. The necropsy of the child, performed immediately after death, revealed no pathological changes. Culture tubes were inoculated with blood from the heart, liver, spleen, and kidneys, and remained sterile after 48 hours' incubation at 37° C. Unfortunately no bacteriological examination was made of the maternal blood. Widal's test was carried out on the mother and on the child. Blood taken from the mother at the time of labour gave a positive reaction in 5 per cent. solution, a partial in 0·5 per cent. The fœtal serum reaction was negative even at 50 per cent.

Table I. is a summary of the cases of a similar nature that we have found recorded in the literature.

Among the problems which present themselves are the following:—

1. *Are typhoid bacilli transmitted from the mother to the fœtus?*—In ten cases (Nos. 5, 10, 11, 14, 22, 23, 24, 26, 27, and 30 in Table I.) typhoid bacilli were found in the fœtal organs or blood. In Case 26 it is just possible that the fœtus may have been infected after birth. In Bolton's and in Fordyce's cases (Nos. 14 and 5) the fœtuses were born dead. The bacilli must therefore have entered the fœtuses before birth. In 11 cases (Nos. 1, 12, 13, 15, 16, 18, 19, 25, 28, 29, and our own) the typhoid bacilli were looked for in the fœtus and not found. Thus in about half of the published cases of typhoid fever in pregnant women typhoid bacilli have passed into the fœtal blood. In such cases they were probably freely circulating in the mother's blood but we have no proof of this. In future cases particular attention should be paid to the bacteriology of the maternal, as well as of the fœtal, blood.

It is interesting to note that when bacilli have been found in the fœtus delivery has been late in the fever. The times are: Third week, third week, twenty-fourth day, sixth week, fourth week, twenty-ninth day, and twenty-fifth day of a relapse; whereas in those cases in which no bacilli were found the times were comparatively early—viz., tenth day, tenth day, third week, third week, and eighth day from the onset of the mother's fever. It would seem, therefore, that the *duration* of the typhoid fever is an important factor in determining infection of the fœtus. This raises the question whether, in cases where the fœtus is viable, labour should not be induced as early as possible in order to save the child from infection.

2. *Does the typhoid agglutinin occur in the serum of a fœtus born of a mother suffering from typhoid fever?*—That agglutinins do sometimes so occur in the fœtal serum is well established. Positive reactions have been found in seven cases (Nos. 1, 5, 6, 8, 9, 14, and 20 in Table I.).

3. *Can the typhoid serum reaction occur in the fœtus in which no bacilli have been found?*—The evidence that this can be so is slender. Out of the seven cases in which a positive serum reaction was obtained in the fœtus three only were examined for bacteria. In two (Nos. 5 and 14) typhoid bacilli were found. In one (No. 1) bacteria were looked for but not found. This is the only case of the kind. It is so important that we give Etienne's[14] account of it in his own words:—

> ..... La malade tombe dans le collapsus et elle succombe à 8 heures. A l'autopsie, on constate que les lésions intestinales sont discrètes ..... L'autopsie du fœtus est pratiquée immédiatement. Nous constatons l'intégrité absolue de tous les organes, notamment des intestins, de la rate et du foie.
>
> *Recherches bactériologiques.*—Nous ensemençons sur gélose du sang des cavités cardiaques, du sac hépatique et splénique. Tous ces organes fœtaux sont stériles. Nous dosons minutieusement le pouvoir agglutinatif selon la méthode de Courmont, en nous servant d'une culture sur bouillon de bacille d'Eberth ayant pour point de départ un échantillon donné par F. Widal, toujours entretenu et que nous avons toujours employé pour nos recherches antérieures. Chez la mère le sang des cavités cardiaques présente un pouvoir agglutinatif de 150. Chez le fœtus, le sang des cavités cardiaques a un pouvoir agglutinatif de 200. Le liquide amniotique a également un pouvoir de 200.

TABLE I.—TABLE OF RECORDED CASES OF EXAMINATION FOR TYPHOID BACILLI OR FOR WIDAL'S TEST IN FŒTUSES BORN OF MOTHERS SUFFERING FROM TYPHOID FEVER.

Number of case.	Name of observer.	Month of pregnancy.	Fate of mother.	Fate of fœtus.	Widal's reaction in the mother.	In the fœtus.	
						Bacilli in tissues.	Widal's reaction.
1	Etienne, G.[14]	5	Died.	Taken out at necropsy on fifteenth day of fever.	Positive 1 in 150.	Looked for and not found.	Positive 1 in 200.
2	Dogliotti.[9]	—	—	—	Positive.	Not examined.	Negative
3	Planchu and Gallavardin.[21]	8½	Lived.	Born on ninth day of fever; lived.	,,	,,	,,
4	,, [26]	6	,,	Born alive on thirteenth day of fever; died.	,,	,,	,,
5	Fordyce [12]	5	Died.	Born dead in sixth week.	,,	Present.	Positive.
6	Chambrelent.[6]	8	Lived.	Lived. No record of day of fever when born.	,,	Not examined.	,,
7	,, [7]	8	,,	Born on fourth day of fever; lived.	,,	,,	Negative.
8	Griffiths.[30]	9	,,	Born after three weeks' fever; lived.	,,	,,	Positive.
9	Mosso and Danie.[24]	—	,,	—	,,	,,	(?) ,,
10	Freund and Levi.[15]	5	,,	Born alive in fourth week of fever; died.	Not examined.	Present.	Not examined.
11	Etienne, G.[13]	5	—	Born dead on twenty-ninth day of fever.	—	,,	,,
12	Bolton.[5]	3	Died.	Born dead during third week of fever.	Positive.	Looked for and not found.	Negative
13	,, [5]	8	Lived.	Born alive during third week; died in 12 hours.	,,	,,	,,
14	,, [5]	5	,,	Born dead on twenty-fifth day of relapse.	,,	Present.	Positive.
15	Rous and Lacroix.[29]	8	,,	Twins, born alive on tenth day of fever; died in four days.	,,	Looked for and not found.	Negative.
16	,, [29]	8	,,	Born alive on tenth day of fever; died in three days.	,,	,,	,,
17	Batty Shaw.[4]	9	,,	The mother had typhoid fever at fourth to fifth month of pregnancy; the pregnancy continued and the child was born alive at term, and was fed upon the breast.	Positive at time of fever; positive at time child was born.	Not examined.	Negative, even after five weeks' feeding on mother's milk.
18	Kirton.[33]	6	—	Dead; no details.	Positive.	Looked for and not found.	Negative.
19	,, [23]	9	—	Dead; no details.	,,	,,	,,
20	,, [21]	9	—	—	—	Not examined.	Positive.
21	Stengel.[30]	—	—	—	—	,,	Negative.
	Earlier cases in which the details are incomplete; investigated before the days of Widal's serum test.						
22	Eberth.[11]	—	—	Born dead, third week of fever.	Not examined.	Present.	Not examined
23	Hildebrandt.[31]	6½	—	Born dead on twenty-second day of fever.	,,	,,	,,
24	Giglio.[19]	—	—	—	,,	,,	,,
25	Frascani.[17]	—	—	—	,,	Looked for and not found.	,,
26	Janiszeski.[22]	—	—	Infant, premature; lived 15 days.	,,	Present after death.	,,
27	Durk.[9]	—	—	—	,,	Present.	,,
28	Resinelli.[28]	—	—	—	,,	Looked for and not found.	,,
29	Fraenkel and Kiderlein.[16]	5	Died.	Dead; born seventeenth day.	,,	,,	,,
30	Ernst.[12]	9	Lived.	Date of delivery uncertain. The child developed a spotty rash suggestive of typhoid fever; died on the fourth day after birth. No intestinal lesions.	,,	Present.	,,

The figures after the observers' names indicate the numbers of the references at the end of the paper.

The occurrence of agglutinins without bacteria in the fœtus appears to us contrary to expectation. It is a point requiring careful and repeated confirmation. If true, the deduction must be that a positive Widal's reaction in the fœtus is no proof that the fœtus has, or has had, typhoid fever. It further raises the question:—

4. *How does the fœtus acquire agglutinin?*—Since it is well established that typhoid bacilli are sometimes found in the fœtus it would be reasonable to expect that the fœtal tissues, reacting to the bacillary invasion, would produce their own agglutinins, the fœtus behaving as though it were an independent individual. If bacilli were always found in the fœtal tissues when the fœtal serum gave a positive reaction, as in Fordyce's and in Bolton's cases (Nos. 5 and 14), there would be ground for presuming that the fœtus always produced its own agglutinins in this way. Etienne's case, if true, seems to support the opposite view—namely, that the serum reaction can occur in the fœtus without bacilli being present. It is a most important case but it needs confirmation. If confirmed it would show that agglutinin may occur in the fœtus without bacillary infection. If this be the case there are two possibilities: either the fœtus receives the agglutinin directly from the mother across the placenta; or, the fœtus reacts to the maternal bacillary infection, producing its own agglutinins in response to stimulation by maternal toxins.

The passive transmission of the agglutinin from the mother to the fœtus would seem possible, since we know that the virus of measles,[1] of variola,[2] and of syphilis can pass, and also soluble drugs[3] such as mercury, potassium iodide, alcohol, and chloroform. If, however, this be the usual method by which the fœtus obtains its agglutinins it is difficult to explain (1) why the fœtal serum reactions should be absent in so many cases (viz., Nos. 2, 3, 4, 7, 12, 13, 15, 16, 17, 18, 19, and our own), in all of which the maternal reactions were positive; (2) why, in a case such

as that given by Batty Shaw (No. 17), the fœtus, which remained in utero for four months after the maternal attack of typhoid fever, should give a negative reaction when the mother's serum gave a strong reaction both at the time of the fever and also at the time of the child's birth.

We would further draw attention to the fact that the negative fœtal results have nearly all occurred in the cases in which early delivery had taken place. In the negative cases the times were: ninth day, fourth day, thirteenth day, tenth day, tenth day, eighth day, third week, and third week of the fever; whilst positive results were obtained at the sixth week, third week, third month, and twenty-fifth day. The times were appreciably the longer when a positive result was obtained. It is difficult to see why there should be this delay in the passage of agglutinins if the fœtus receives them from the mother; unless the placenta can be supposed to exert a temporary "barrier-action"[27] against the passage across it of agglutinins but ultimately allows them to pass. It seems equally reasonable to suppose that the fœtus produces its own agglutinins. It is a matter of regret that all the cases of positive serum reaction in the fœtus have not been bacteriologically examined.

The effect of pregnancy upon the mother who has typhoid fever.—Typhoid fever occurring during pregnancy does not affect the prognosis or alter the course of the disease. The results in the seven cases that have occurred in Guy's Hospital over a period of 28 years are given in Table II.

TABLE II.

Age of mother.	Month of pregnancy.	Fate of mother.	Fate of fœtus.
24	8	Died.	Born alive at eighth day of fever. Died in three-quarters of an hour.
26	5	Recovered.	Went to term. Born alive and lived.
21	2½	,,	Abortion on seventeenth day of fever.
24	3½	,,	,, twenty-sixth ,, ,,
24	4	,,	,, fourteenth ,, ,,
20	8½	,,	Labour on fourth day of fever. Child lived.
31	4	,,	Abortion during fourth week of fever.

The death-rate was 14 per cent. Vinay[31] gives the mortality at 17 per cent. Duynot[10] gives six deaths in 36 cases, a mortality of 16 per cent. These figures do not differ widely from those given by the Metropolitan Asylums Board for all cases.

The effect of typhoid fever in the mother on the pregnancy.—The effect of enteric fever on the pregnancy is bad. In the majority of the cases abortion or premature labour takes place. This was so in six of the seven cases in Guy's Hospital—i.e., 85 per cent. Vinay gives two-thirds of abortions. Martinet's figures are 66 abortions in 109 cases. Penot[23] gives 65 per cent. of abortions. The delivery is most often easy and the patient experiences considerable relief. The uterus involutes just as if there were no maternal illness. The fœtus, even if viable, is often born dead or dies soon after birth. As we have suggested, it is possible that this heavy mortality amongst viable fœtuses might be reduced by the induction of premature labour in the earliest stage of the fever. Such induction would seem to be justifiable in the interests of the child when the prognosis for the mother is apparently so little influenced by labour.

Our best thanks are due to Dr. Hale White both for leave to publish the case and for his helpful criticism of our paper; we also thank Dr. J. W. H. Eyre heartily for his careful bacteriological examinations.

Bibliography.—1, 2, and 3. Ballantyne: Archiv Pediatr., vol. x., 1893, p. 301; Antenatal Pathology and Hygiene, vol. i., p. 153; Ibid., p. 152. 4. Batty Shaw: THE LANCET, August 28th, 1897, p. 539. 5. Bolton: Journal of Pathology and Bacteriology, vol. viii., 1901, pp. 137-41. 6 and 7. Chambrelent: Journal de Médecine de Bordeaux, vol. xxvii., 1896, pp. 245-57; Revue Mensuelle de Gynécologie, d'Obstétrique, et de Pédiatrique, Bordeaux, February, 1900. 8. Dogliotti: Gazzetta Medica di Torino, 1897, p. 821. 9. Durk: Münchener Medicinische Wochenschrift, vol. xliii., 1896. 10. Duynot: THE LANCET, May 10th, 1902, p. 1334. 11. Eberth: Fortschritte der Medicin, vol. vii., 1889, p. 889. 12. Ernst: Beiträge zur Pathologischen Anatomie und zur Allgemeinen Pathologie, vol. viii., 1890, p. 182. 13 and 14. Etienne: Presse Médicale, 1896, p. 465; Comptes Rendus de la Société de Biologie, 1899, p. 860. 15. Fordyce: Transactions of the Edinburgh Obstetrical Society, vol. xxiii., 1898, p. 90. 16. Fraenkel and Kiderlein: Fortschritte der Medicin, vol. vii., 1889, p. 641. 17. Frascani: Riv. Gen. Ital. di Chir. Med., vol. iv., 1902, pp. 332-348. 18. Freund and Levi: Berliner Klinische Wochenschrift, 1896, p. 539. 19. Giglio: Centralblatt für Gynäkologie, vol. xiv., 1890, p. 819. 20. Griffiths: Medical News, May 15th, 1897. 21. Hildebrandt: Fortschritte der Medicin, vol. vii., 1889, p. 889. 22. Janiszeski: Münchener Medicinische Wochenschrift, vol. xl., 1893, p. 705. 23. Kirton: Medical Supplement of the Metropolitan Asylums Board, 1897. 24. Mosso and Danic: Comptes Rendus de la Société de Biologie, vol. x., 1897, p. 238. 25. Penot: Thèse de Paris, 1899, Epitome, Brit. Med. Jour., 1900, vol. i., No. 27. 26. Planchu and Gallavardin: Lyon Médicale, vol. lxxxviii, 1898, pp. 479-83. 27. Porak: Archives de Médecine Expérimentale et d'Anatomie Pathologique, vol. vi., 1894, p. 192. 28. Resinelli: Annali di Ostetrica e Ginecologia, vol. xviii., 1896, p. 686. 29. Rous and Lacroix: Presse Médicale, Paris, 1902, pp. 315-17. 30. Stengel: New York Medical Journal, vol. x., 1898, p. 338. 31. Vinay: Lyon Médicale, Dec. 3rd, 1893.

THE ACTION OF YEAST IN TUBERCULOSIS AND ITS INFLUENCE ON THE OPSONIC INDEX.

BY WILLIAM R. HUGGARD, M.A., M.D., M.CH. R.U.I., F.R.C.P. LOND.,

AND

EGBERT C. MORLAND, B.SC., M.B. LOND.

For the last ten or twelve years yeast and nuclein, which is sometimes held—though without sufficient warrant—to be its active therapeutic constituent, have been employed by many observers in the treatment of various bacterial diseases. The idea at the bottom of this mode of treatment is twofold. Nuclein is a chief constituent of the white blood cells and the administration of nuclein is commonly supposed to be followed, after a preliminary drop, by an increase in the number of these cells. In addition to this, nuclein has a bactericidal action. From these facts the inference was at hand that nuclein would reinforce the leucocytes in number and in activity and so help them in their struggle with invaders and that at the same time it would render the country less suitable for the support of the intruders.

In spite of the seeming soundness of the theory, and in spite of much favourable clinical observation, neither yeast nor nuclein has ever come into general use. Neither yeast nor nuclein is even mentioned in Hale White's admirable "Text-book of Pharmacology and Therapeutics" (1901); and Sir William Whitla,[1] speaking of nuclein, says: "Glowing reports were published of the improvements and even cures of tubercular disease of the lung. Notwithstanding these glowing accounts this drug, which was hailed as an 'essence of life,' is rapidly falling into disuse." In the exaggerated language quoted by Whitla we have doubtless one great reason for the neglect of the drug. Where the expectations are too high disappointment is bound to follow. Pure cultures of yeast administered hypodermically were strongly advocated a few years ago by de Backer of Paris; and his views, more concisely expounded, were put before the profession in England by Dr. H. Manders in his extremely interesting book on "The Ferment Treatment of Cancer and Tuberculosis" (1898).

One of us became acquainted with some of the virtues of yeast nearly 25 years ago. He had been suffering for about a year from successive crops of boils, against which various remedies had been tried in vain, when he was advised by Dr. (now Sir) Stephen Mackenzie to take yeast. He took yeast; a tablespoonful in milk daily. The boils in progress at the time became less severe and were not followed by a fresh crop. From that time on he has used yeast in furunculosis and always with good results. Some of the patients also were suffering from tuberculosis and not uncommonly while taking yeast they appeared to improve generally. From this point of view systematic observations have been made for the last two years on the influence, if any, of yeast taken internally on tuberculosis. The cases at first selected were chronic cases in which the patient had either "stuck in the mud" or was losing ground. Three or four advanced cases which were going downhill were also included in the observations. The results in some cases were striking, in some cases encouraging, in others almost *nil*. In no case was there any bad effect but some patients left off the drug because they disliked the taste of it or thought that it disagreed with them. All the cases, even those whose downward ccurse was not

[1] Sir William Whitla: Elements of Pharmacy, Materia Medica, and Therapeutics. Eighth edition, 1903, p. 547.

arrested, appeared to derive some benefit from the remedy. In most cases the downward course either became less rapid or was arrested and the stationary cases improved. On the whole the results were good enough to lead to a more extended trial. 36 patients were under this treatment for periods varying from a fortnight to about 12 months. Besides these there were about half a dozen who took the remedy for less than a fortnight but who discontinued it for one reason or another, such as flatulence, dislike of the taste, or disgust at the smell of the yeast. The clinical outcome of all the observations is that some improvement was noted in almost every case where the remedy was taken steadily for at least a month, though in many cases improvement appeared much earlier. In all but one case tubercle bacilli were present when the yeast treatment was begun. For the purposes of the present paper the cases may be arranged as follows. (*a*) One case without tubercle bacilli in the sputum. (*b*) Five cases in which tubercle bacilli disappeared and the disease became seemingly arrested while under yeast treatment. (*c*) Seven cases in which the disease is tending towards arrest but in which tubercle bacilli have not yet disappeared. In all the foregoing cases recovery would be almost certain in the absence of any treatment not absolutely harmful, but yeast appeared to quicken the rate of improvement. (*d*) 11 cases of medium severity and of doubtful prognosis, the patients either losing ground or barely holding their own when the yeast was begun. All but one improved more or less; seven improved both locally and generally; two improved generally but not locally; one remained practically unchanged both generally and locally, though the opsonic index rose; in one (detailed more fully below) renal tuberculosis and albuminuria were found. In six of the cases there was a diminution of tubercle bacilli; in three of the cases an increase; and in two cases the numbers were unchanged. In two cases renal as well as pulmonary tuberculosis was present. In one of these cases the patient took urotropin for a considerable time before the yeast, but without noticeable effect on the tubercle bacilli. The urotropin was continued with the yeast. Tubercle bacilli have now almost disappeared. In the other of these two cases there was laryngeal as well as pulmonary tuberculosis and during the yeast treatment renal tuberculosis and albuminuria were discovered after the appearance of gouty pains (pains with tenderness in the joints of the hands and feet). The urine was normal in quantity and in specific gravity but contained a large quantity of albumin and a few granular casts. The patient felt well and seemed in better health than previously. The state of the lungs and of the larynx improved at the same time. (*e*) 12 advanced cases of bad prognosis, nine with more or less pyrexia. All appeared to benefit in general health to some extent, at least for a time. Seven improved considerably in local as well as in general condition and show some promise of reaching a stage of tolerance or quiescence. In two there was no material change in the local condition. In one case excavation which had already been extensive seemed to go on even more rapidly, in spite of some improvement in the general health. Two of the patients died subsequently.

The masterly researches of Wright and his fellow-workers have recently placed in the hands of physicians a new test as to the course that a case of tuberculosis is taking. This test is the opsonic index. It shows the degree to which the serum of a person's blood prepares tubercle bacilli for being taken up and digested by normal white blood corpuscles; and, apart from disturbing influences, appears to be fairly constant. Two of Wright's papers especially will repay study by all who are interested in the subject: "A Lecture on the Inoculation Treatment of Tuberculosis"[2] and "On the Action Exerted upon the Tubercle Bacillus by Human Blood Fluids and on the Elaboration of Protective Elements in the Human Organism in Response to Inoculations of a Tubercle Vaccine"[3] (by A. E. Wright and S. R. Douglas). One important point brought out by Wright is that tuberculin treatment, unless under the guidance of this test, is not unlikely to be attended by evil results. The effect of a tuberculin injection is first a fall and then a rise in the protective elements of the blood, but if the injection is renewed before the rise has taken place the patient's resistance becomes progressively lower. Wright's researches suggested the desirability of testing the influence of the yeast treatment on the blood and observations to this effect were begun about the middle of January last. An interval of a fortnight or more was generally left between two examinations. Out of 25 cases available for comparison four had been under the yeast treatment for at least two or three months before the first examination was made. In three of these four cases the opsonic index was extremely high—over unity, that is, higher than in the case of a perfectly healthy person. In the remaining case it was 0·77—that is, rather above the mean level of first examinations. Of the whole 25 cases, in 20 the opsonic index rose and in one it remained unchanged. Of the remaining four cases, in which the opsonic index fell, in three there had been an intercurrent ailment—influenza in two cases and febrile disturbance in the third. In one of these three cases there was a subsequent rise to about the original level. In the other case in which the opsonic index fell no plausible explanation suggests itself. There was an improvement in the patient's general condition, but the local condition remained practically unchanged, though there was some diminution in the amount of sputum. The following table shows the opsonic index at successive examinations in these 25 patients, the number of days from the first to the last observation, the rise or fall of the index, and the decrease or increase of tubercle bacilli in the sputum:—

Table of Opsonic Index in 25 Unselected Cases of Tuberculosis during Administration of Yeast.

Serial number.	Opsonic index. (Decimal point omitted for convenience.)	Number of days between first and last observation.	Rise (+) or fall (−) of index.	Decrease (−)* or increase (+) of tuberculous bacilli.
1	88, 74, 78, 82, 85	87	− 03	—
2	51, 68, 67, 80	55	+ 29	− 6
3	79, 77, 80, 77, 77, 77, 66, 92, 92	94	+ 13	—
4	72, 118, 139	59	+ 62	− 3
5	53, 57, 55, 51, 55, 56	62	+ 03	− 1
6	117, 107, 118	38	+ 01	+ 2
7	66, 73, 71	35	+ 05	− 1
8	62, 83, 79	57	+ 17	—
9	53, 60, 106	41	+ 53	− 2
10	63, 76	29	+ 13	− 2
11	34, 65	28	+ 31	—
12	77, 71	57	− 06	− 6
13	78, 82, 66, 92	53	+ 14	+ 2
14	39, 44, 48, 59, 57	53	+ 18	—
15	90, 72, 81, 70	50	− 20	—
16	43, 43	40	—	− 1
17	113, 100	25	− 13	+ 1
18	108, 128	16	+ 20	− 1
19	86, 125	41	+ 39	—
20	82, 103	16	+ 21	− 1
21	70, 72, 63, 87, 86, 59, 93	20	+ 23	—
22	75, 81	24	+ 06	+ 2
23	60, 75	20	+ 15	+ 1
24	98, 101, 116	13	+ 18	− 2
25	103, 113	9	+ 10	—
—	Mean index: First observation—0·74. Last observation—0·89.	Mean: 41 days	Mean rise of index: 0·15	—

* The last column gives the decrease or increase according to Gaffky's scale of tubercle bacilli in the sputum during the period of observation: thus, an increase from No. 1 to 3 or from No. 5 to 7 is indicated by +2; a corresponding decrease by −2.

Observations on the foregoing table.—No. 1 had slight febrile disturbance between the first and the second examination. No. 6 had been taking yeast off and on for about a year. No. 12 had recurrent attacks of influenza between the two examinations. No. 17 had been taking yeast before the first examination; had taken it also last winter; and had an attack of influenza between the two blood examinations. No. 18 had been taking yeast before the first examination. The opsonic index was examined in many other persons, some well and some suffering from tuberculosis but not taking yeast, and some interesting facts came out. Persons recovering from tuberculosis showed, in four or five instances,

[2] Clinical Journal, Nov. 9th, 1904.

[3] Proceedings of the Royal Society, Sept. 28th, 1904, and THE LANCET, Oct. 22nd, 1904, p. 1138.

an opsonic index above unity. A curious circumstance was that some of the lowest opsonic indices occurred in heavy smokers. In two instances the effects of a single dose of yeast were observed. In both a marked drop in the opsonic index was found when the blood was examined two days after the dose. This drop was followed after four or five days by a rise above the previous level. In one of these cases a second dose was given a week after the first dose and with the same results but in an exaggerated degree—that is, both the drop and the subsequent rise in opsonic index were

FIG. 1.

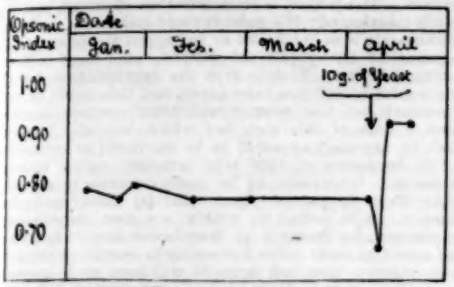


Chart showing the effect of a single dose of yeast on the opsonic index (No. 3 in table) which had previously remained constant for three months.

FIG. 2.

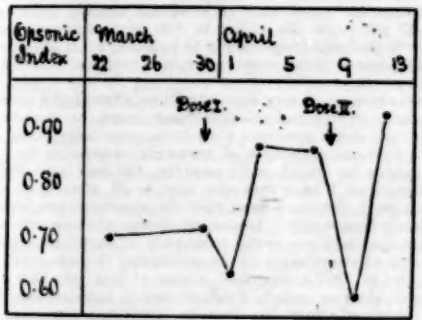


Chart showing the effect of two successive doses of yeast (at an interval of nine days) on the opsonic index. (No. 21 in table.)

greater than after the first dose. The accompanying charts show the response of the opsonic index to yeast.

Some very interesting observations concern the influence of yeast on the number of white corpuscles in the blood. The leucocytosis curves of a person not taking yeast and of a person after his first dose of yeast are shown in the adjoining chart. The observations in the yeast-taking person

FIG. 3.

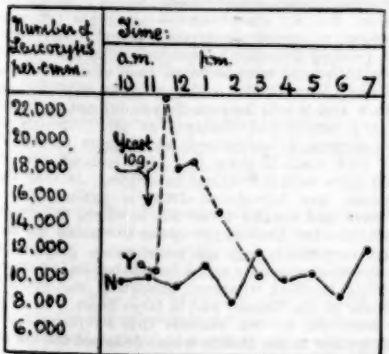


Chart showing the normal daily variation in the leucocyte count (N) and that following the administration of a single dose of yeast (Y).

were made at first every half hour. The diagram shows that in the first half hour the number of leucocytes was more than doubled. In the second half hour a fall equal to nearly half the rise took place. Then with a slight fluctuation the fall continued until in about three and a half hours the number of leucocytes was rather below the level when the dose was taken. A noteworthy circumstance is that the blood of persons (suffering from tuberculosis) who had taken yeast for some time yielded on the average lower leucocyte counts than did the blood of persons not taking yeast, as is shown in the following little table.

Average Leucocyte Count.

28 counts of persons not taking yeast	10,800 leucocytes per c.mm.
60 " " taking yeast	7,800 leucocytes per c.mm.

Some patients were taking benzosol, quinine, terpin hydrate, calcium glycerophosphate, or phenacetin, alone or in combination, before beginning the yeast treatment, and then, in order to make as little change as possible, these were continued with the yeast—at any rate, for a time.

As regards the general effects of the yeast some patients did not notice any influence whatever. Some felt a sense of well-being; two or three had a feeling of exhilaration. Several patients said that their appetite and digestion were better on taking yeast. A few complained of flatulence, less noticeable or absent when the yeast was taken on an empty stomach. Two or three patients said that under its use the bowels acted more regularly. Two or three patients found that owing to the taste or smell it caused a feeling of nausea or disgust and in these cases it was of course dropped at once. In two or three cases gouty or rheumatic pains were complained of after yeast had been taken for some little time. The discovery of albuminuria with renal tuberculosis in one person who was taking yeast led to an examination of all the other cases available but in none was there any evidence of renal irritation, though one of these cases a little time before beginning the yeast treatment had had albuminuria with granular casts and another also had well-marked renal tuberculosis before the treatment was begun. Yeast did not appear to have any influence on the temperature of patients suffering from a febrile tendency. Influenza in a mild form occurred in two or three patients while they were taking yeast, which therefore can hardly be looked on as a preventive.

The yeast employed has been of three or four different kinds. Common German yeast or *presshefe* was most generally used. Ordinary brewers' yeast was taken by three or four patients while in England. "Levurosine," a dried Swiss proprietary yeast, was taken for a time by one patient. "Ferment de Raisin," a French proprietary preparation, was used by three patients. In the earlier observations the dose of yeast was generally a piece of the size of a filbert—about two or three grammes—once daily. In most of the later observations a larger dose was employed; a piece of the size of a walnut was taken twice a day. The dose was usually taken in cold or tepid milk or in water. In view of the drop preceding the rise in the opsonic index the question occurs whether the preliminary drop can be minimised and the subsequent rise magnified by a different dosage or by a different interval between the doses. The plan of giving one dose of ten grammes—a piece of the size of a walnut—every five days is at present on trial.

A few words must be said about the composition of yeast.[4] In fresh yeast the proportion of water varies from 75 to 83 per cent. According to Naegeli and Loew[5] brewer's bottom yeast, dried, consists of cellulose with vegetable gum, 37 parts; proteid bodies—ordinary albumin, 36 parts, and unstable phosphorised bodies, nine parts; peptones precipitable by subacetate of lead, two parts; fatty matter, five parts; extractive matters (leucine, tyrosine, guanin, xanthin), four parts; and ash, seven parts. The various substances contained in the ash vary according to different analysts and specimens within the following limits: potash, 23·3 to 39·5 per cent.; soda, 0·5 to 2·5 per cent.; magnesia, 4·1 to 6·5 per cent.; lime, 1·0 to 7·6 per cent.; phosphoric acid, 44·8 to 59·4 per cent.; sulphuric acid, 0·3 to 6·4 per cent.; silicic acid, 0·9 to 1·9 per cent.; and chlorine, 0·03 to 0·1 per cent. Of the proteid bodies in yeast the nucleins only have been carefully studied. In an analysis of beer yeast by Stutzer nitrogen amounted to 8·65 per cent. and of this rather more

[4] The account of the chemistry of yeast has been taken chiefly from J. König's Chemie der Menschlichen Nahrungs und Genussmittel. Zweiter Band. Vierte Auflage, 1904, pp. 1159–98.

[5] Cited in Morat et Doyon's Traité de Physiologie, Fonctions Elémentaires, 1904, vol. i., p. 85.

than one fourth (2·65 per cent.) came from the nucleins. The cellulose and gum of yeast appear to consist largely of glycogen. König cites Claudrian and Laurent as estimating the glycogen in dried yeast at 31 per cent. and at 32·6 per cent. respectively. The amount appears, however, to vary a good deal according to the life period of the yeast; and Harden and Young are cited in Richet's Dictionary[6] as having found the average amount of glycogen in yeast only about 2 per cent.

A great number of different enzymes are contained in yeast. They are classified by König into four groups, according as they are hydrolytic or oxidising, reducing, or fermentative. The hydrolytic enzymes are subdivided according as they are sugar-splitting, proteolytic, or coagulating. Besides the constituents of yeast itself the products to which it gives rise have to be borne in mind. These products are twofold; the products of fermentation and the products of the metabolism of the living cells. The products of fermentation include carbonic acid and various alcohols; amongst which amyl-, propyl-, isobutyl-alcohols, aldehyde, and furfural have been found. Amongst the products of metabolism glycerine and succinic acid appear to be the most important. The products of fermentation and probably also the products of metabolism are considerably influenced by various circumstances besides the particular variety of saccharomyces. Thus temperature, the nature and composition of the fluid, its degree of concentration, the presence of certain nitrogenous substances, such as asparagin, pepton, or ammonium salts—all may influence the result.

Many interesting problems for future investigation are suggested by the facts already brought out. Is the action of yeast on the opsonic index due to nuclein, to an enzyme, to the products of metabolism or of fermentation after ingestion, or to the joint action of all? The rise in the number of leucocytes appears to be coincident with a fall in the opsonic index; and a final lower level in the number of leucocytes under the prolonged administration of yeast appears to correspond with a rise in the opsonic index. What is the explanation? Is the activity of the leucocytes themselves in any way modified by yeast or by its products? How long does the opsonic index remain up after yeast has been stopped? The clinical material for this paper was furnished by one of us (W. R. H.) and the bacteriological material by the other (E. C. M.).

Davos-Platz, Switzerland.

A NOTE ON THE TREATMENT OF THE TOXÆMIC SYMPTOMS IN SCARLET FEVER.

BY A. KNYVETT GORDON, M.B. CANTAB.,

LECTURER ON INFECTIOUS DISEASES IN THE UNIVERSITY OF MANCHESTER; MEDICAL SUPERINTENDENT OF MONSALL HOSPITAL.

THE cases of scarlet fever which occur most commonly in practice may, roughly speaking, be divided into three classes or types and this distinction is not invalidated by the fact that mixtures of these are occasionally met with. There is the simple variety, where the attack presents no special distinguishing features and is not at any time severe; the pyrexia subsides, as the faucial inflammation resolves, at the end of the first week or thereabouts, and, with the exception perhaps of a transient otorrhœa, there is no complication or sequel of note. In this type little treatment, except the preservation of asepsis in the surroundings, and accessible organs, of the patient, is needed for the disease itself, though symptoms may occasionally require relief. But a patient may be severely ill with scarlet fever in one of two ways: he may have an intense faucial inflammation which, instead of subsiding in due course, progresses. The ulceration of the tonsils or palate becomes deeper, sloughing occurs, the mouth, the nose, and the naso-pharynx are excoriated and filled with foul secretion, and from these cavities absorption takes place with the production of a general septicæmia which usually corresponds in intensity to the extent of the faucial affection. Otorrhœa, after often running a protracted course, almost certainly follows, and late nephritis is not uncommon. To this type, which is more common in isolation hospital practice by virtue of its being more frequently found in ill-nourished or uncleanly children, the convenient, though possibly somewhat inaccurate, name of "septic scarlet fever" has been given. It is, at all events, a better term than its predecessor "scarlatina anginosa." Of this type I do not propose here to speak.

In the third class the symptoms are very different. Here the patient receives a large dose of the scarlatinal poison, whatever this may be, at the onset. In some cases death occurs before the rash has appeared and a fatal termination within 24 hours of the first sign of the eruption is not uncommon. The patient is semi-comatose, cyanosed, and is evidently intoxicated; the pulse is rapid and feeble, and the respiratory-rate is so quickened as to suggest the presence of a pneumonia; the pupils are dilated, and there is low muttering delirium. To this type the appropriate name of "toxic scarlet fever" has been given, and this, again, is an improvement on the term "malignant" which usually denoted a case of this sort, but which was also loosely applied to any that appeared to be moribund or intensely ill. The frequency of this type certainly varies within wide limits. It appears to be more common in certain districts than in others—apart, that is, from epidemic prevalence. It is certainly, within my own experience, more common, for instance, in Manchester than in London. It also seems to occur more frequently in certain epidemics than in others; now and again it will crop up in a small country village or in a single spot in a town. It is difficult, therefore, to state its frequency with any accuracy. At Monsall Hospital I have met with 55 cases which I should describe as toxic out of 3403 consecutive admissions. Clinically it is a very fatal type of the disease. My own belief is that in the absence of adequate specific treatment about 80 per cent. die either in the acute stage or from subsequent prolonged septicæmia or pyæmia, for if the acute stage is passed these cases become "septic" like the preceding type.

In the absence of any accurate knowledge of the scarlatinal toxin, or toxins, all treatment must be empirical. Perhaps the more common plan is to give large doses of alcohol, digitalis, carbonate of ammonia, strychnine, &c., to which might be added, more recently, the cold bath, but I cannot say that I have ever seen any, or all, of these do the slightest good, though I have had the opportunity of trying them fairly thoroughly. It was, of course, obvious from the first that the only successful treatment of these cases could be by the administration of an antitoxin, if such could be found, and in 1897 I described a case of this type that had recovered after a small dose of some antistreptococcic serum obtained from the Pasteur Institute: this was a monovalent serum. Consequently I gave this serum in other toxic and in some septic cases but I never obtained any further good results with it. In one case under the care of a colleague it certainly seemed to do harm. At all events, it seemed to me that the chance of hitting off, so to speak, the particular streptococcal toxin with a monovalent serum was a small one.

Two years ago, however, I commenced to work with a polyvalent antistreptococcic serum prepared by Dr. W. Dowson, the director of the Wellcome Research Laboratories, and which then had its origin from the following streptococci: streptococcus erysipelatos, No. 1; streptococcus erysipelatos, No. 2; streptococcus pyogenes (empyema); streptococcus pyogenes (puerperal fever); streptococcus pyogenes (wound infection); streptococcus from a case of septic tonsillitis; and streptococcus "aus chorea." To what extent it was a bactericidal, and to what an antitoxic, serum is uncertain and it will be seen that it did not at that time contain any scarlatinal elements at all. Various other streptococci were, I understand, added from time to time, but until 1904 none of these had been isolated from cases that could have been scarlatinal in origin. At that time a streptococcus was introduced from a patient who may possibly have had scarlet fever but in whom the diagnosis was doubtful. Dr. Dowson, in order to enable me to test this point, very kindly sent me some serum prepared from this last streptococcus only and I found that its injection had no ascertainable effect whatever, though it was given early in the course of the disease and in large doses. In all probability, therefore, we can exclude this streptococcus from any participation in the results which followed the use of the combined serum.

As regards the bacteriology of these cases it is a significant

[6] Richet's Dictionnaire de Physiologie, vol. vii., 1905, p. 308.

fact that in the laboratory here, where a large number of cultures from scarlatinal patients are examined—and I may say, in passing, that a culture from the throat, the nose, and the ears of every scarlatinal patient is taken at least once during the patient's stay in hospital—it is exceedingly uncommon for a pure culture of any organism to be met with, though in the case of diphtheria this occurs quite frequently. I am informed by Professor S. Delépine also that he has had a similar experience in the Public Health Laboratory. In all the cases to be described streptococci of one kind or another were present in mixed culture. So far as this goes it is significant, as pointing to the improbability that the phenomena of scarlet fever are due to a pure infection with any organism. Whatever scarlet fever be in theory, it is in practice a mixed infection.

This serum, then, was given to 50 out of the 55 toxic cases previously mentioned, and it was, in fact, only withheld in five who were *in articulo mortis* on admission. It was, in addition, administered to five others that were really examples of the mixed (septic and toxic) type. The dose varied considerably. At first 20 or 40 cubic centimetres only were injected but later doses of 50 or 100 cubic centimetres were employed. In the majority of instances the whole amount was given in one injection immediately upon the admission of the patient, which was as a rule on the second or third day of the illness. Of these 55 injected cases 13 died—a mortality of about 23½ per cent. A reduction was also apparent in the general scarlatinal mortality of the hospital, which was in 1902 6·1 per cent. and in 1903 (the first year in which the serum was employed) 4·7 per cent. and in 1904, with increasing use of the serum, 3·1 per cent. I do not wish to press this statistical argument unduly, as so many factors have to be taken into consideration which cannot be recorded statistically but which are capable of influencing the result, but there can be no doubt that life has been saved by the use of the serum in these toxic cases.

The whole subject of serum therapy in scarlet fever is empirical. We do not know what the organism of scarlet fever is or even if the disease is due to one germ or to many; we cannot reproduce the disease in an animal and we have not, in theory, an antitoxin for it. To record a dose in terms of so many cubic centimetres is valueless, for no anti-streptococcic serum can be standardised. Many attempts have been made to obtain a serum from scarlatinal cases only. Moser's is perhaps the best known of these but it is unfortunately not obtainable commercially and its use is therefore restricted. I hope myself to publish later, in conjunction with Dr. Dowson, some further work on this point, but in the meantime I have communicated this preliminary note in order that a remedy which appears to have a decided clinical value, and which can be easily obtained, should have from others the further trial which I believe it merits.

I have never observed any ill-effects from the serum except a transient erythema, which is not, as far as my experience goes, so irksome to the patient as that met with after antidiphtheritic serum. The larger dose of 100 cubic centimetres is, in my opinion, more useful than the smaller ones and it is advisable to give all that is going to be administered in one injection. I have never seen any effect follow a repeated dose. Obviously, the serum should be given as early as possible in the course of the attack.

Manchester.

INNOMINATE ANEURYSM; SIMULTANEOUS LIGATURE OF RIGHT CAROTID AND SUBCLAVIAN ARTERIES; RECOVERY.

BY H. NASON DUNN, M.B., B.CH. DUB.,
MAJOR, R.A.M.C.

THE patient, an ex-soldier, aged 40 years, single, contracted syphilis in 1886, when he was under treatment for some weeks. Early in July, 1904, he suffered from severe neuralgic pains radiating from the right side of the chest to the back of the head and extending into the right shoulder. He attended the out-patient department of the Royal Arsenal Hospital, Woolwich, but no physical signs were apparently present at the time. On Sept. 27th, the pains being more severe, he again presented himself at the hospital and when seen by me a well-marked pulsatile swelling occupied the episternal notch and extended from the sternal origin of the left sterno-mastoid muscle to the junction of the inner and middle thirds of the right clavicle. The tumour measured three and a half inches laterally and projected upwards above the clavicle for one and a quarter inches, the lower margin being ill-defined, well-marked expansile pulsation with a systolic murmur being present. The trachea was displaced to the left; dysphagia on swallowing solids and dyspnœa on exertion or assuming the prone position were also complained of. He also suffered from severe pains along the right side of the head and neck and the right shoulder and arm, the radial pulse on the right being also smaller than that on the left side and its rhythm somewhat delayed. His voice was reduced to a whisper and his cough was "brassy" in character, the right vocal cord being fixed and motionless, due to direct pressure on the recurrent laryngeal nerve, but "tracheal tugging" was not observed.

As the man was exceedingly ill and the tumour was enlarging rapidly Mr. L. A. Bidwell of the West London Hospital kindly saw him and confirmed the diagnosis of innominate aneurysm. The patient was admitted to the hospital and was put on a modified Tufnell's diet and large doses of potassium iodide (30 to 50 grains) were administered three times a day. An attempt to get an x ray photograph of the tumour was unsuccessful. For the first few weeks after admission marked improvement, due to the rest and dieting, took place; but as the tumour subsequently increased in size operation was decided upon. With Mr. Bidwell's assistance the right common carotid was ligatured above the omohyoid muscle and the subclavian was tied in its third stage. The patient being a man with a long spare neck there was no difficulty about the operation, the subclavian being easily reached below the clavicle, as suggested by Mr. Bidwell, by elevating the shoulder. Both arteries were apparently healthy at the site of ligature; double strands of silk were the material used. Both wounds, with the exception of one small stitch point, healed without suppuration. The patient's temperature rose to 99·6° F. on the day following the operation and fluctuated between that and normal until the fourteenth day, when it finally settled down. He complained of severe pain along the right arm but no œdema took place nor did any head symptoms occur. Immediately after ligature of the arteries a decided diminution of the sac took place and that portion in the episternal notch became firmer and less expansile, but subsequently the remainder of the tumour enlarged slightly upwards and outwards and pulsated somewhat more freely than before ligature.

The following was the patient's condition on March 29th, 51 days after operation. That portion of the sac in the episternal notch had consolidated and felt firm to the touch although faint pulsation was still felt and the sac itself was tender on pressure. His voice had much improved but the cough was still "brassy" and paralysis of the right cord still persisted. Some difficulty in swallowing solids continued but pain had disappeared. He was discharged from hospital on April 7th at his own request.

On May 1st, 85 days after the operation, the patient was recommended for light employment. He now walks about one and a half miles to and from his work daily without dyspnœa and can follow his occupation of cleaning tools at the bench without pain or inconvenience of any sort except slight fatigue of the right arm and shoulder. The tumour has shrunk considerably and is firmer and less expansile, measuring two and three quarter inches laterally and extending for three quarters of an inch above the clavicle. Paralysis of his right vocal cord is still present and on inspection there is a slight fulness immediately above the sternal end of the right clavicle and the external jugular vein is more prominent than that on the opposite side. No temporal pulse is to be felt although a faint radial pulse is present and coldness and slight weakness of the right arm remain.

The following statistics taken from records available at the Medical Graduates' College, London, may be of interest. Mr. Bennett May in THE LANCET[1] reported the results of 35 cases of distal ligature of the carotid and subclavian for innominate aneurysm—of these, in 29 both arteries were ligatured simultaneously and six consecutively. 23 died, death being hastened by the operation; in six the disease was not checked and six were practically cured. He also

[1] THE LANCET, June 14th, 1884, p. 1066.

reported 29 cases in which the common carotid alone was tied and of these 19 died from the operation or soon after; in six the disease was not arrested and four were practically cured or showed marked improvement. I have also been able to find accounts of ten other cases of simultaneous distal ligature of both arteries reported in the medical journals; in five the sac became firmer and smaller and the patients were able to do light work; in four death occurred in periods varying from ten days to one year (two from lung trouble and one as the result of hemiplegia); in one the condition was relieved but not cured; in no case, however, was there complete consolidation of the sac, although in one it was reported to have shrunk to the size of a walnut.

Royal Arsenal, Woolwich.

COEXISTENCE OF CYSTIC MESOMETRIUM AND TUBAL PREGNANCY.[1]

BY F. J. STRONG HEANEY, M.A., M.D. DUB., F.R.C.S. IREL.,
HONORARY SURGEON TO THE VICTORIA HOSPITAL, BLACKPOOL.

THE patient, a woman, aged 26 years, came to the out-patient department complaining of pain in the left iliac region of about two weeks' duration. She had been married seven years and had one child, aged five years. Following this pregnancy and up to the time of my seeing her menstruation had been regular with the exception of one short period ten months previously when about a week after menstruating she was seized with acute abdominal pain which lasted for three days. During this time she lost a certain amount of blood from the uterus and a substance supposed to have been a "mole" was passed per vaginam. She was confined to bed for four days and menstruation which had been regular up to the occurrence reappeared five weeks later.

On examination the uterus was found to be displaced to the right by a mass which bimanually gave fluctuation. The tumour was inseparable from the uterus and with the latter completely filled the pelvis. There were no signs of pregnancy and the sound passed into the uterus demonstrated that the cavity of the latter was of normal size. Provisionally I diagnosed cystic tumour and advised operation.

The abdomen was opened by separating the fibres of the left rectus muscle. The uterus was found occupying the pelvis on the right and a translucent cystic mass filling the remainder of the pelvic opening. This mass consisted of one large cyst and three smaller ones. On insinuating my hand behind the uterus I broke through some delicate membranous structures into a friable mass lying in the pouch of Douglas. This mass was separated and on bringing it into the light of day it was at once identified as dead placental tissue. A little further search was rewarded by finding a partially macerated fœtus. The mass had lain in Douglas's pouch, retained mechanically in position by the uterus and cyst filling the brim of the pelvis. The cystic tumour still remained. It was, as I have said, continuous with the uterus, the peritoneum passing from one to the other without leaving any space to tie off the tumour in the usual way. It was, however, possible, working through an opening in the peritoneum behind, to bring the finger into contact with the actual wall of the principal cyst and partially to enucleate it from the uterus and from the peritoneum of the broad ligament without interfering very much with the latter. The portions of the surrounding tissues which could not be separated in this manner were treated as pedicle and ligatured with silk. The removal of the principal cyst left the other cystic portions of the broad ligament and the remnant of the Fallopian tube easy to manipulate and tie off. The Fallopian tube could be traced from the uterus into an attenuated membrane which had obviously formed the fœtal cavity and which lay on the postero-inferior surface of the cyst mass. There was at first rather alarming oozing of blood into the ragged cavity from which the placenta and fœtus had been removed. In these circumstances a short time ago one would have felt inclined to insert a drain but of late the peritoneal cavity has been shown to possess such powers of absorption and recuperation if only it is completely closed that I determined to dispense with drainage. To stay hæmorrhage a swab secured on a long Spencer Wells forceps and soaked with adrenalin was held in the bleeding space while the peritoneal layer of the abdominal wall was being sutured. There was no further trouble from either hæmorrhage or absorption, the temperature remaining normal and the pulse-rate never exceeding 80.

The fœtus, in so far as its macerated condition allowed one to judge, appeared to have developed to about the fifth month. It is also of considerable interest to note the absence of amenorrhœa from conception to the date of rupture and the comparatively slight inconvenience caused by the latter event and by the presence of a dead fœtus and placenta in the abdominal cavity for nearly a year. The symptoms which eventually brought the patient under treatment were, I take it, produced by the enlarging cysts. Bland-Sutton, among others, mentions the coexistence of parovarian cyst and tubal pregnancy and it is easy to see how a causal relationship might exist between the two conditions.

Blackpool.

[1] One of a series of cases read before the Fylde Medical Society on April 18th, 1905.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

A Case of Milky Ascites in which the Opalescence was not due to Fat.—Rhinoplastic Operation for Syphilitic Destruction of the Nose.—Primary Adrenal Carcinoma of the Liver.—A Case of Diabetes Mellitus with Xanthoma and Lipæmia. Annual Meeting.

A MEETING of this society was held on May 26th, Dr. FREDERICK TAYLOR, the President, being in the chair.

The PRESIDENT and Dr. J. FAWCETT communicated a case of Milky Ascites in which the Opalescence was not due to Fat. The patient, a man, aged 31 years, was admitted into Guy's Hospital on Oct. 6th, 1904, and died a month later. His illness commenced in May, 1904, with œdema of the legs and face, followed by ascites, for the relief of which paracentesis was performed in all nine times. The fluid removed was always milky and this appearance was at first thought to be due to fat but under the microscope no fat globules, but only granules, were visible. On admission the urine was found to contain about 14 parts per 1000 of albumin and casts were present. No other signs of disease, with the exception of the ascites and nephritis, were found. At the necropsy there was milky fluid in both pleuræ and a large amount in the peritoneal cavity. The kidneys exhibited the typical aspect of a tubal nephritis. The other viscera appeared healthy. The pancreas weighed only 60 grammes but microscopically its structure was normal. Clinical examination of the ascitic fluid by Mr. J. H. Ryffel gave the following result: fat, 0·045 per cent.; proteid, 0·396 per cent.; iodine, 0·0966 per cent. (probably as potassium iodide); and chlorine, 0·264 per cent. as chloride. Mr. R. W. Allen reported that no fat globules could be detected under the microscope or extracted with ether; on precipitation with ammonium sulphate the fluid became quite clear. The analysis and microscopic examination showed that the milky appearance was not due to fat but probably to proteid in some form. The amount of fat present was only 0·045 per cent. Lactescent serous effusions in which the opacity was thought to be due to a proteid had been ascribed to (1) lecithin, (2) mucoid substances, and (3) to a proteid resembling casein. Lecithin seemed to be an important element in these effusions. Joachim and von Beinert in some recent researches pointed out that albuminous bodies of the globulin group might have had their solubility lessened by chemical combination with lecithin or by molecular arrangement, their conclusion being that the milkiness was probably due to a combination of lecithin and a proteid. Attention was also drawn to the association of lactescent serum and the presence of nephritis, as previously noted by Bright, Castaigne, and others.

Mr. JAMES BERRY read a paper on Rhinoplastic Operation for Syphilitic Destruction of the Nose. The patient, a man, aged 33 years, had acquired syphilis nine months before coming under observation and the whole of the left

ala had sloughed away. Under iodide of potassium the ulceration of the nose had quickly healed, but a large hole was left exposing freely the interior of the nostril. The patient was at first fitted with an artificial aluminium ala which he wore for three months. At the operation a flap was made and doubled on itself so as to present a free edge of skin at the edge of the nostril. Deep and superficial sutures were used. The doubled-up flap ultimately formed a prominent new ala which completely covered up the gap in the side of the nose. The triangular raw surface left between the eyelid and the nose was then closed by transverse suturing aided by undercutting and by a deep tension stitch of stout fishing gut passed from the centre of the cheek to the middle of the nose, left in place for seven days. The patient was left with a prominent and fairly shapely ala with which he was much pleased and a nostril through which he could breathe freely. The resulting scar was a linear one placed in the furrow between the nose and cheek where it was scarcely noticeable. Neither the lower eyelid nor the upper lip was in any way drawn out of place by the operation. The paper was illustrated by several photographs of the patient's face before and after operation. The patient had previously been exhibited before the society. Iodide of potassium was freely administered throughout.—Mr. CAMPBELL WILLIAMS congratulated Mr. Berry on the result of his operation. Such operations did better, Mr. Williams believed, in cases recently infected with syphilis than in old-standing cases. It was important to carry on the anti-syphilitic treatment continuously for several years and iodide alone was not so satisfactory as when associated with mercury.—Mr. W. G. SPENCER congratulated Mr. Berry on the ingenious method of turning in the flap which he had adopted.—In reply to Mr. H. L. BARNARD as to whether anyone had ever tried to close syphilitic apertures in the palate by similar operations, Mr. SPENCER referred to certain successful cases which had been reported.—Mr. BERRY replied.

Dr. SIDNEY P. PHILLIPS and Mr. B. H. SPILSBURY communicated a case of Primary Adrenal Carcinoma. The patient, a married woman, aged 40 years, suffered from loss of appetite, nausea, and occasional vomiting for about ten months before she noticed that the abdomen was enlarging. She then took to bed and a month later, on Dec. 15th, 1904, she went into St. Mary's Hospital, under Dr. Phillips's care, on account of ascites, loss of flesh, and debility. After removal by a trocar of 386 ounces of clear yellow fluid from the abdomen the liver was found to be greatly enlarged and with nodules of all sizes projecting from it. There were no pain, no jaundice, and no pyrexia. Many small nodules could also be felt within the abdominal cavity, some freely moveable, others situated just beneath the abdominal wall and feeling like floating lymphatic glands. They were evidently nodules of growth in the peritoneum and the omentum. The patient died from exhaustion on Dec. 27th. The necropsy showed the left lobe of the liver to be almost replaced by firm white new growth. Nodules of the same neoplasm were found in the right lobe of the liver, the commencement of the transverse colon, and the peritoneum. The suprarenal glands were quite healthy. Microscopic sections prepared and exhibited by Mr. Spilsbury showed that the growth in the liver and in the peritoneal nodules presented the characteristics of carcinoma originating in the suprarenal cortex. The tumour cells were for the most part arranged in single or in double rows around a central lumen. There was only a small amount of fibrous tissue between the rows of cells and in places the cells rested directly upon the endothelium of the capillary blood-vessels. The occasional existence of accessory suprarenal bodies in the viscera had been described by various observers. Schmorl in 1891 had been the first to record the discovery of such aberrant "rests" in the liver in four cases in which the adrenal glands were themselves quite normal. Obendorfer had described two other cases. Pepere, who had investigated the subject with great minuteness, had recorded the first case of an adrenal "rest" in the liver giving origin to the development of cancer of the organ; he concluded that germs of adrenal tissue might during embryonic life become included in the liver substance and might consist of cortical or more rarely of medullary substance, the cells of such adrenal "rests" giving origin to neoplasms of epithelial type and reproducing the structure of adrenal tissue. Dr. Phillips's case exactly resembled Pepere's case in its clinical and pathological characters; both cases occurred in women, aged 40 years; in both there were great enlargement and nodulation of the liver with copious ascites but without jaundice, pain, or pyrexia; and both ran a very rapid and malignant course to a fatal issue. Clinically it was impossible to distinguish these cases from other forms of cancer of the liver, though in the latter ascites rarely occurred without jaundice.—Dr. F. PARKES WEBER asked whether there was any obvious alteration in the blood pressure in this case because the cells of the tumour resembled, and were probably derived from, cells of the cortex of the adrenal tissue.

Sir DYCE DUCKWORTH reported a case of Diabetes Mellitus complicated by Xanthoma, Lipæmia, and Fatty Necrosis of the Pancreas.

The annual meeting of the society was afterwards held to receive the annual reports of the council and treasurer and to elect the officers and members of council for the ensuing session. As the result of the scrutiny of the ballot the following gentlemen were declared duly elected:—President: Mr. H. H. Clutton. Vice-Presidents: Dr. F. de Havilland Hall, Dr. J. Kingston Fowler, Dr. William Ewart, Mr. H. T. Butlin, Mr. Clinton T. Dent, and Mr. John R. Lunn. Treasurer: Mr. G. H. Makins. Council: Dr. F. E. Batten, Dr. Harry Campbell, Dr. J. Walter Carr, Dr. W. S. Colman, Dr. Norman Dalton, Dr. E. W. Goodall, Dr. W. Pasteur, Dr. F. J. Smith, Dr. H. H. Tooth, Dr. Claude Wilson, Mr. F. W. Strugnell, Mr. Anthony A. Bowlby, Mr. Albert Carless, Sir Alfred Fripp, Mr. J. Ernest Lane, Mr. T. H. Kellock, Mr. B. G. A. Moynihan, Mr. T. H. Openshaw, Mr. A. H. Tubby, and Mr. H. F. Waterhouse. Honorary secretaries: Mr. W. G. Spencer and Dr. Archibald E. Garrod.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on May 5th, Professor E. H. BENNETT being in the chair.

Professor BENNETT presented a note on Fracture of the Cartilage of the First Rib, illustrated by the exhibition of some six specimens of the injury. In a majority of the cases the individuals were females not likely to have been during life engaged in very heavy labour, such as might be assumed to cause new or false joints in the cartilage, and the recent fractures corresponded in all pathological details with fractures of the cartilages lower down in the chest.

Dr. T. G. MOORHEAD exhibited a case of Anomaly of the Mitral Valve. On the ventricular aspect of the large anterior cusp a small foramen with smooth edges was present which led into a sac about one-third of an inch in diameter.

Dr. R. ATKINSON STONEY showed a specimen of Tuberculous Disease of the Cæcum, Appendix, and Ileum, removed by operation from a female 23 years of age. At the operation a thickened band was found round the ileum one and a half inches from the cæcum. The cæcum itself was large, nodular, and thickened. The diseased parts were removed and a lateral anastomosis was performed. On opening the specimen a stricture with a diameter of half an inch was found in the ileum, the cavity of the cæcum was almost obliterated, and a second stricture was found in the commencement of the colon, with a diameter of a third of an inch.

Dr. W. J. THOMPSON showed a specimen of Recrudescent Ulceration of the Stomach. It was taken post mortem from a man, aged 29 years, who was admitted to Jervis-street Hospital, Dublin, on Feb. 21st. He had contracted syphilis five years ago and for the last two or three years had been drinking heavily. Physical examination showed the heart to be enlarged and organically diseased; there were also enlarged liver, dilated stomach, peripheral neuritis, and albuminuria. At the post-mortem examination the stomach was found to be enlarged, with a well-marked contraction near the pylorus. On opening it there were seven ulcers (two as large as a sixpence) in the region of the pylorus. These ulcers were on the cicatrices of two very large ulcers. Prior to death the patient showed practically no sign of gastric ulceration.

Mr. ARTHUR H. BENSON and Mr. H. C. MOONEY showed a Congenital Sarcoma which had been removed from the upper eyelid of an infant 17 days old. The tumour was then of the size of a small walnut. There was no family history of any form of malignant growth in either parent. At birth it was of the size of a split pea, situated in the centre of the left upper eyelid. It was darkish in colour and somewhat

resembled a hæmatoma. It changed little for a week and then grew rapidly. It was lobulated, very elastic in feel, and had entirely lost its dark look and more resembled a cyst in feel and appearance. Three weeks afterwards recurrence took place in the neighbourhood of the wound; also over the malar bone and in the orbit. A second operation failed to eradicate it and a sub-maxillary gland became enlarged as well as one in the axilla. The orbital tumour was, after three months, of the size of a small potato and similar in character to the original growth removed. As far as could be ascertained this case was the only one of congenital sarcoma of the eyelid which had been recorded.

SECTION OF SURGERY.

Cleft Palate.—Volvulus of the Cæcum.—Exhibition of Cases and Specimens.

A MEETING of this section was held on May 12th, Mr. THOMAS E. GORDON being in the chair.

Sir THORNLEY STOKER read a paper on the Operation for Closure of the Hard Palate during the three months following birth, practised by Mr. Brophy of Chicago. He (Sir Thornley Stoker) said that he had performed it in three cases and found it very successful. This operation could only be practised during the period mentioned, as the bones were afterwards too fully ossified to permit the necessary change in their position. It consisted essentially in drawing the maxillæ and palate bones of opposite sides together so as to close the cleft. This was done by two wire sutures passed across from one side to the other above the alveolar processes. They lay above the floor of the nasal fossæ. One was inserted behind the malar ridge, the other in front of it. The bones were forced together by pressure so as to close the cleft, the edges of which had been pared. If the bones could not be approximated by pressure alone the malar process was divided on each side. The anterior and posterior ends of the wires on each side were twisted together over a lead suture-plate fitted to the outer surface of the alveolus. The hard palate, the premaxillæ, and generally the soft palate were operated on at once. The hare-lip was closed subsequently when free access to the mouth for operative purposes was not required. The wire sutures were withdrawn after about four weeks.—Mr. GORDON said that in his opinion the risks of Brophy's operation were somewhat serious, especially in those cases where it was found at first impossible to bring the edges of the palate together.—Mr. W. S. HAUGHTON said that he had performed an operation very similar to Brophy's on a child nine days old. The parts were easily brought together and there was an entire absence of shock.

Mr. J. F. L. KEEGAN read notes on a case of Volvulus of the Cæcum and exhibited the specimen.—Mr. Kennedy and Mr. E. H. Taylor discussed the communication.

Mr. KEEGAN also exhibited a patient after a wiring operation for Fractured Patella.

Major M. P. HOLT, R.A.M.C., exhibited an Aneurysm of the Innominate Artery which had been successfully treated by ligature, the patient dying from tuberculosis 15 months later. He also exhibited an aneurysm of the innominate artery in which an unsuccessful result followed distal ligature and wiring by Power and Colt's apparatus.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Leeds on May 26th, Dr. J. Lloyd Roberts, the President, being in the chair.—Dr. E. O. Croft (Leeds) showed a Myoma of the Vaginal Wall nearly two inches in diameter, which occupied a lateral position and extended to within half an inch of the urethra. It produced no symptoms beyond slight bleeding from an excoriation on its most prominent portion. The nature of the growth was demonstrated by microscopic sections. Amongst 54 vaginal growths there were only three of this nature. They were always single, generally occupied the middle line, and were usually sessile. They were derived from the muscular tissue of the vaginal wall itself.—Dr. C. Oldfield (Leeds) described the case of a female, aged 22 years, from whom he removed a Hydatid Mole, discovering at the same time the presence of Bilateral Ovarian Cysts. Five weeks after the removal of the mole the abdomen was opened and the two multilocular ovarian cysts were removed. The uterus was three times the normal size and was very soft in texture. It was therefore removed by supravaginal hysterectomy. The cysts were found to contain in their walls a large amount of lutein tissue and examination of the uterus revealed the presence of a chorio-epitheliomatous growth in the posterior wall. The presence of malignant disease being thus established the cervix was removed a week later. Dr. Oldfield explained the observed relationship between the presence of excessive lutein tissue in the ovaries (with or without definite cyst formation) and the occurrence of vesicular degeneration of the chorion. Fraenkel had concluded that one of the functions of the corpus luteum was to preside over the embedding of the ovum in the uterus. The presence of excess of lutein tissue appeared to determine excessive growth of the trophoblast—the essential feature of vesicular mole formation. From this it was only a short step to the production of chorio-epithelioma. If the association between excess of lutein tissue and trophoblastic overgrowth could be proved by further investigation an important contribution would have been made to the pathology of malignant disease.—Dr. A. Stookes (Liverpool) and Dr. S. Buckley (Manchester) described cases of Pseudo-hermaphroditism and Dr. G. W. FitzGerald (Manchester) read a paper on Ruptures of the Vagina in Connexion with Parturition.

Reviews and Notices of Books.

The Principles of Heredity with some Applications. By G. ARCHDALL REID, M.B. Edin., F.R.S. Edin. London: Chapman and Hall. 1905. Pp. 359. Price 12*s.* 6*d.* net.

IN this work the author does not, as the title might imply, confine himself to the subject of heredity pure and simple but sets himself the ambitious task of unfolding a complete scheme of biological evolution. It is now considered by most biologists that in the case of all the higher animal organisms the reproductive cells are merely housed within the soma and that no acquisitions made by the latter—no somatic *modifications* as they are termed—are capable of so influencing the reproductive cells as to be transmissible to the offspring. New characters, however, which arise from peculiarities in the constitution of the reproductive cells, or, as they are termed, natural *variations*, are transmissible, and it is on such that natural selection operates. Dr. Reid advances from the field of pathology convincing arguments against the inheritability of somatic acquisitions. Were these transmissible every impress made on the soma, whether by trauma or disease, would tend to appear in the offspring whose tissues would in the course of a few generations become so disorganised that the species would necessarily become extinct. Not only does this not occur but species which are subjected to injurious agencies, such as the parasites of malaria and tuberculosis, far from degenerating, tend actually to undergo evolution against them. Again, if somatic acquirements be transmissible, why, asks Dr. Reid, is acquired immunity not inherited? and how comes it that the European has not by this time attained to racial immunity against such diseases as measles and whooping-cough?

One of the most important problems presented to the biologist is the origin of natural variations. That biparental reproduction gives rise to them is admitted by all and Weismann has long contended that the essential purpose of this mode of reproduction is to provide variations on which natural selection may operate. However this may be, it is now known that such variations may also arise in parthenogenetic organisms, and Dr. Reid further insists that the variations which result from biparental reproduction are not progressive but regressive—reversions, in fact, towards an ancestral type in which no *additional* characters capable of being accumulated by natural selection appear. It is well known that when two varieties of a species are crossed the most recently evolved characters tend to be eliminated from the offspring; and Dr. Reid contends that the essential object of biparental reproduction is to bring about this very

regression and in this way to rid the species of useless or injurious characters. When it became known that somatic variations were incapable of inheritance it was obviously impossible to account for the disappearance of useless parts through the inheritance of disuse acquirements; while it seemed impossible to account for their disappearance by the action of "reverse selection" alone. Dr. Reid admits that the latter may, to some extent, hasten the elimination of burdensome and injurious characters and cause the atrophy of an organ in the later stages of development, such as the eyes of cave-dwelling animals (in which case, however, there is a prolongation rather than an abbreviation of ontogeny), but he insists that it is altogether incompetent to get rid of the numerous useless and injurious characters which during the long phylogeny of species are continually demanding elimination. For this purpose biparental reproduction is required: all that is needful is for natural selection to cease to operate in regard to any character and that character is automatically "planed away." "When natural selection is stringent it overcomes the tendency to regression and progressive evolution ensues. When it is less stringent it merely maintains the structure. When it is still less stringent, and even more when it is has been completely abolished, the tendency to reversion comes into play and causes regressive evolution." Nothing in nature is more certain "than that the function of biparental reproduction is to produce regressive variation; and nothing in science is more remarkable than that in spite of plain, abundant, and conclusive evidence it should so long have been regarded as the cause of progressive variations. ..... This, then, is the unknown factor in evolution. Not one but two forces are continually at work in nature—Natural Selection and Reversion. The former causes progressive evolution; the latter regressive evolution. They are opposed but one would be quite inadequate without the other." Dr. Reid holds that cross-breeding benefits by causing an elimination of the useless and injurious characters which are apt to result from too close in-breeding.

So much for biparental reproduction as a cause of variations. How far may they result from the direct action of the environment on the reproductive cells? While granting that these cells, like all others, are capable of being profoundly affected by their environment, the author contends that their hereditary tendencies are little, if at all, influenced in this way. Natural selection, he believes, has brought about an all but absolute insusceptibility of the germ plasm—so far as its developmental tendencies are concerned—to the influence of the environment. How, on any other supposition, would it be possible for a species long to maintain its identity? and how would it be possible, considering how frequently the reproductive cells are bathed in unhealthy plasma, for the offspring not always to be affected injuriously? It is true that unicellular organisms may be made to undergo considerable modification by cultivating them in special media, thus suggesting that their hereditary powers may in this way be changed, but the author reminds us that their enormous rate of increase allows rapid modification by means of natural selection. Again, the action of the environment on the germ cells cannot account for the great variety of progressive variations which may be observed among the individuals of the same litter, seeing that in such cases the germs and sperms respectively have from their first coming into being been subjected to practically the same environment.

Dr. Reid, thus finding neither biparental reproduction no the direct action of the environment on the germ plasm competent to account for progressive variations, concludes that they must arise spontaneously; that natural selection has endowed the germ plasm with a highly advantageous tendency to vary within certain narrow limits with the object of producing natural variations on which natural selection may operate, just as, on the other hand, it has rendered the germ plasm highly resistant to environmental influences.

Ontogeny takes place by recapitulation; the individual tends to recapitulate the ontogeny of the parents, these, again, that of their parents, and so on to the beginning of life. Hence ontogeny is to some extent an epitome of phylogeny, or the life-history of the race. But it is never an exact recapitulation. Man, for example, does not in his ontogeny exactly recapitulate that of his piscian prototype. The ontogeny unfolds the life-history of the species from its unicellular ancestor but "it is a history with great inaccuracies; with vast omissions and some additions, both omissions and additions being greatest in the earlier stages"; and some biologists by this "unlikeness of the embryo during the different stages of its development to the lower animals which were its prototypes in the life-history have declared that the development of the individual is not a recapitulation of the life-history of the race." But as Dr. Reid pointedly observes, *natural selection is at work during every phase of ontogeny*, on variations which manifest themselves not only in the adult but also in the embryo and fœtus, and is therefore capable of influencing each and every phase of ontogeny in correspondence with the requirements of the environment. "Step by step the race in all its developmental stages follows the change in the environment. To-day, for example, mammals retain their young within their bodies for prolonged periods. The whole structure of the embryo has altered in consequence. Thus the gills have almost entirely disappeared and a placenta has undertaken their function."

The author applies the principle of natural selection in explaining the evolution of species against disease. Evolution, he insists, takes place only under adverse conditions. "Every species undergoes progressive evolution under adverse conditions ..... every species undergoes regressive evolution—i.e., degeneration—under beneficial conditions." Thus if a community is exposed to injurious agencies, such as the parasites of malaria or tubercle; or poisons, such as alcohol and opium, natural selection comes into operation and tends to start an evolution against them. In this way certain sections of mankind are evolving against tuberculosis and malaria, so that we find the West African far more resistant to malaria than the European and the latter more resistant to tuberculosis than the former. Thus, again, the Jews, from their long acquaintance with alcohol, have evolved into a sober race, while the Chinese have become temperate in regard to opium. Similarly town-bred communities tend to undergo evolution against the injurious conditions of town life, Dr. Reid stoutly contesting the prevalent view that, unless fresh blood be continually imported from the country, slum life leads in two or three generations to extinction. The resistance of the germ plasm to environmental conditions and the non-inheritability of somatic acquirements negative such a supposition.

The marvellous power possessed by man of making acquirements—both mental and physical—is dwelt upon at considerable length. The purely instinct-led organism is held to a stereotyped environment by a stereotyped instinct, but as the complexity and instability of the environment increase instinct becomes less and less adequate to adapt the organism to it, and the ability to make adaptive acquirements becomes increasingly necessary, until (as in the case of man) it reaches well-nigh limitless proportions. It is pointed out that, with the exception of a few organic instincts, such as hunger and thirst and the sexual instinct, man's entire mental equipment is acquired and that many of his physical characters which we are wont to regard as inborn—the result of unaided developmental force—are essentially acquired. Not until this truth is recognised is it possible to realise how

greatly man can be influenced for good or ill by environmental agencies and how much may be done by education to rear a race of capable citizens. It is even contended that the mental differences of races depend more upon mental environment than inborn peculiarity. The influence of religion in moulding national character is cited in this connexion and it is argued that the followers of any great religious creed, such as Mahomedanism, show all the world over a remarkable mental likeness, no matter to which race they belong or what clime they inhabit. The author further maintains that the rise and fall of nations is not a mere matter of economic conditions, but is largely, nay chiefly, the outcome of national character as determined by mental environment. A great responsibility therefore rests upon us to train up our youth in the right way. Why, asks Dr. Reid, burden the young mind with things non-essential and ephemeral while allowing it to remain ignorant of the eternal realities of nature? Why fuddle it with the words and the relations between the words of a dead language—mere symbols—and allow it to learn nothing of the great scheme of evolution, of the inexorable laws of heredity, and the merciful mercilessness of natural selection? "The time has arrived when the subject of heredity must engage the attention of thinking people, especially medical men. A knowledge of it should be part of the ordinary professional equipment of the physician. ..... A great field of knowledge remains untilled. It is the task and duty of medical men to gather its harvests and apply them to the betterment of mankind. ..... Owing to the improvements in medical science and the consequent survival of the hitherto unfit, tremendous problems have arisen, the solution of which cannot long be delayed without disaster to the species."

In these words the author ends a work distinguished alike for incisiveness of diction, originality of thought, and cogency of argument. It is difficult to controvert any of the main conclusions and there is but little from which we can actively dissent. We are not convinced that the evolution of intelligence has reached its term, as Dr. Reid suggests. The most important of his deductions is that concerning the part which biparental reproduction is assumed to play in evolution. Should it stand the test of time Dr. Reid will have discovered a great biological law, one second only in importance to that of natural selection itself.

The subject of heredity is now exciting great interest not only in the medical profession but among the lay public who look to the profession for instruction in regard to it. Dr. Reid's work, therefore, appears at an opportune time and every medical man should study it carefully.

The Cambridge Natural History. Edited by S. F. HARMER, F.R.S., and A. E. SHIPLEY, F.R.S. Vol. VII., Ascidians, Fishes, &c. By Dr. HARMER, Professor HERDMAN, Professor BRIDGE, and M. BOULENGER. Royal 8vo, pp. xvii.–760. London: Macmillan. 1905. Price 17*s.* net.

THE bulk of this volume deals with fishes, but the earlier chapter devoted to those groups—the Ascidians, Balanoglossus, Amphioxus, and some other types lying at varying distances from the borderland of the vertebrate sub-kingdom—is by no means to be neglected. The fact is, however, that the last-mentioned creatures do not lend themselves altogether to "popular" exposition. Important though they are and really mysterious of their kind—for the exact relationship of tunicate and hemichordate generally to the undoubted vertebrate may be that of the ancestor or the degraded descendant—the importance is for the anatomist and embryologist, and those who seek for tit-bits of natural history will not find much refreshment in the accurate and rightly solid pages of the earlier portion of this volume. It appears to us, however, that the authors of the part relating to fishes might have relaxed a little and dropped into anecdote more freely. Particularly can this be said of M. Boulenger who is stern and uncompromising in his mode of dealing with the classification of the teleostean fishes and will have nothing to do with any matters of non-technical interest. The reader seeking, for example, information as to the flat fishes of our coasts is confronted with a long list of generic names in italics, which are for the most part names and nothing more. This section is, in fact, as we think, either too technical or not technical enough. It has the disadvantages of the catalogue without the advantages of a scientific treatise. There is some mystery, too, as to the scheme of classification of the teleostean fishes adopted by M. Boulenger. The author distinctly, though not immodestly, congratulates himself upon the far-seeing character of the scheme adopted by him. On the other hand, the editors remark that it is but common fairness to M. Boulenger to call the attention of the reader to the fact that his (M. Boulenger's) MS. was handed in in the year 1902. What does this mean? Has the lapse of time failed to justify M. Boulenger's anticipations or was he so extremely far-seeing that up to the present panting research has toiled after him in vain?

That Professor Bridge's account of fishes in general is largely technical was to be expected and is emphatically to be justified. He has provided us with precisely what is wanted—a good general account of the structure of this group. There is not, so far as we are aware, any so complete and luminous an account of fishes in existence. The sections which impressed themselves upon us as the best are those dealing with the brain and the respiratory system, especially the account of the accessory respiratory organs found in those fishes which are truly to be termed fishes out of water, which leave for variable periods their native flood. The Anabas scandens of the East and the toad-faced Periophthalmus, which hops along marine mud flats in search of wandering molluscs, are examples, which, with many others, are fully treated of by Professor Bridge. As a matter of patriotism it is gratifying to observe how frequently he has to quote the names of Englishmen who have contributed to, and advanced our knowledge of, this group of animals; and among them the name of Mr. Cunningham, the late superintendent of the Marine Biological Laboratory at Plymouth, naturally prevails on account of the vast amount both of technical and economic ichthyology which has been forwarded by his investigations. Nor is Professor Bridge himself backward as a student of the group which is dealt with by him in this work. And it is precisely for that reason that this as well as other volumes of the Cambridge Natural History are likely to have a large public: so much natural history is written by those only acquainted with books or who are of no authority in the subjects of which they treat.

Report on the Origin and Spread of Typhoid Fever in United States Military Camps during the Spanish War of 1898. By WALTER REED, Major and Surgeon United States Army; VICTOR C. VAUGHAN, Major and Division Surgeon United States Volunteers; and EDWARD O. SHAKESPEARE, Major and Brigade Surgeon, United States Volunteers. Vol. I., Prepared in accordance with the Act of Congress, under the direction of Surgeon-General ROBERT M. O'REILLY, United States Army. Washington: Government Printing Office. 1904. Pp. xviii. + 721. Vol. II., 96 Charts and Maps.

THE publication of the complete report of the board on the origin and spread of typhoid fever in the United States military camps during the Spanish War of 1898, by which this vast and valuable collection of data is made available for the profession at large, is greatly due to the interest and appreciation of Mr. Root, late Secretary of War, supplemented by the action of Congress. The letter of transmittal is signed by Major Vaughan, the only member of the

board who lived to see the work finished. In this letter he pays a tribute to the work of his colleagues and acknowledges the valuable help rendered at great personal sacrifice by Dr. Christopher Childs of University College, London. The following are the most important statements and conclusions derived from the report.

During the war every regiment constituting the first, second, third, fourth, fifth, and seventh army corps developed typhoid fever. More than 90 per cent. of the volunteer regiments developed typhoid fever within eight weeks after going into camp. Typhoid fever developed also in certain of the regular regiments within from three to five weeks after going into camp. Typhoid fever became epidemic both in the small encampments of not more than one regiment and in the larger ones, consisting of one or more corps, and in camps located in the northern as well as in the southern states. Typhoid fever is so widely distributed in America that one or more cases are likely to appear in any regiment within eight weeks after assembly.

The miasmatic and pythogenic theories of the origin of typhoid fever are not supported by these investigations, which confirm the doctrine of the specific origin of typhoid fever. With typhoid fever as widely disseminated as it is in America the chances are that if a regiment of 1300 men should be assembled in any section and kept in a camp, the sanitary conditions of which were perfect, one or more cases of typhoid fever would develop. Typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canals of others. It is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body. A man infected with typhoid fever may scatter the infection in every latrine in a regiment before the disease is recognised in himself.

Camp pollution was the greatest sin committed by the troops in 1898. In some instances the space allotted to the regiments was inadequate. Many commands were allowed to remain on one site too long. Requests for change in location made by the medical officers were not always granted. Greater authority should be given to medical officers in questions relating to the hygiene of camps. It may be stated in a general way that the number of cases of typhoid fever in the different camps varied with the methods of disposing of the excretions. The tub system of disposal of fæcal matter is to be condemned. The regulation pit system is not a satisfactory method of disposing of fæcal matter in permanent camps. In permanent camps where water carriage cannot be secured all fæcal matter should be disinfected and then carted away from the camp. Infected water was not an important factor in the spread of typhoid fever in the national encampments in 1898. To guard against the contamination of the water-supply troops in the field should be provided with means for the sterilisation of water. Flies undoubtedly served as carriers of the infection. It is more than likely that men transported infected material on their persons or in their clothing and thus disseminated the disease.

Typhoid fever as it developed in the regimental organisations was characterised by a series of company epidemics, each one having more or less perfectly its own individual characteristics. It is probable that the infection was disseminated to some extent through the air in the form of dust. When a command badly infected with typhoid changes its location it carries the specific agent of the disease in the bodies of the men, in their clothing, bedding, and tentage. After a command becomes badly infected change of location, together with thorough disinfection of all clothing, bedding, and tentage, is necessary. Except in the case of the most urgent military necessity one command should not be located upon the site recently vacated by another. The fact that a command expects to change its location does not justify neglect of proper policing of the ground occupied. It is desirable that the soldier's bed should be raised from the ground. In some of the encampments the tents were too crowded. Medical officers should insist upon soldiers removing their outer clothing at night when the exigencies of the situation permit.

In addition to the recognised cases of typhoid fever there were many short or abortive attacks of this disease which were generally diagnosed as some form of malarial fever. About one-fifth of the soldiers in the national encampments in the United States in 1898 developed typhoid fever. Army surgeons correctly diagnosed about half the cases of typhoid fever. The percentage of death among cases of typhoid fever was 7·61. When a command is thoroughly saturated with typhoid fever it is probable that from one-fourth to one-third of the men will be found susceptible to this disease. In military practice typhoid fever is often apparently an intermittent disease. The belief that errors in diet with consequent gastric and intestinal catarrh induce typhoid fever is not supported by the investigations. More than 90 per cent. of the men who developed typhoid fever had no preceding intestinal disorder. The deaths from typhoid fever were 86·24 per cent. of the total deaths. The morbidity from typhoid fever per 1000 of mean strength was a little less than one-fifth. The mortality from typhoid fever per 1000 of mean strength was 14·63. The average period of incubation in typhoid fever is probably about ten and a half days.

The maps and charts in the second volume show graphically what has been stated in words in Vol. I. The object of displaying by charts the diseases prevalent in the different regiments is to show to the eye the distribution of diarrhœa, typhoid fever, so-called malarial fever lasting ten days and upwards, and so-called malarial fever lasting less than nine days, but especially of typhoid fever, not only in point of time, but also with reference to company outbreaks. A glance at the charts emphasises the fact that typhoid fever generally appeared as separate company outbreaks. This appears to the authors to be most convincing proof that the agent of infection, as a rule at least, was not present in either the food or the drink supplied to the regiment. Typhoid fever must have been spread largely by personal contact and by the contamination of tents, blankets, clothing, and the persons of individuals. This is also emphasised in the smaller maps introduced into the text of Vol. I., in which the tent distribution of the disease was demonstrated. The relation between typhoid fever, diarrhœal diseases, and the so-called malarias, both short and long, is graphically illustrated in many of the charts. The report is a most interesting one.

LIBRARY TABLE.

Notes on the Sorbonne.—We have received a small pamphlet, written by Mr. J. A. Randolph and published by Mr. Dennis Lane, of the Strand, London, W.C., entitled "The Sorbonne and its Secret Chapels." It gives an interesting account of the vicissitudes through which this famous establishment has passed during its lifetime of over 700 years, for it was founded in 1201. The founder was a pious villager from the diocese of Rheims, by name Robert de Sorbon, and he it was who, with the aid of St. Louis and the then Archbishop of Paris, founded a theological college for 16 poor students. By the fourteenth century this number had been increased to 36 and during the middle ages the doctors of the Sorbonne were acknowledged masters of theology. In the seventeenth century Richelieu offered to rebuild the college buildings and to provide a church if they would make him Provisor. This was in 1607 and 20 years later the building was begun. Certain of the funds were provided by money borrowed by

Richelieu from the doctors of the Sorbonne, so that his generosity is somewhat on a par with that of Henry VIII. in his dealing with St. Bartholomew's Hospital. The church was completed in 1653 and is remarkable for containing four small chapels in the thickness of the piers supporting the dome. After the Revolution, when the Sorbonne shared in the general *débâcle*, Napoleon reconstituted it and it is now a school for theology, science, and literature. New buildings have been erected but Richelieu's church still stands. So many British medical men have recently been enjoying the hospitality of their French brethren and have no doubt visited the new Sorbonne that we think it may be interesting to those of our readers who have not been to Paris to read this account of an ancient yet living French educational establishment.

In Confidence to Boys. By H. BISSEKER, M.A., formerly a Public School House-Master. Revised by the Council of the Medical Officers of Schools Association. London: Adlard and Son. 1904. Pp. 32. Price 1*s.* net.—It is the conviction of most of those who have thought a good deal about the truest interests of boys that after a certain age every boy should have important physical facts placed before him as delicately as possible. This book, originally written for private circulation, was so warmly received that it is now issued for a wider circle of readers. It has been revised by the council of the Medical Officers of Schools Association, a circumstance which adds greatly to its value and gives it authority. We have read the little book carefully and we feel that if it be read by boys with care and thoughtfulness it must be both a messenger of good and a means of help and encouragement. The book may safely be placed in a boy's hands and we wish it a very extensive circulation.

Thomas Carlyle: The Man and his Influence. By PERCY WARNER. London: Chapman and Hall. 1904. Pp. 66. Price 1*s.* net.—This essay was written for a local literary society. The author's excuse for publishing it is the hope that it may induce those who would know and judge Carlyle, "to do so by the light of all that is essentially great and good in his life and character, and to seek him—where only he can be truly found—in his works." It is a pleasant little book but it contains, of course, no new information, if we except a letter to Fraser, his publisher, on the occasion of the calamity of the destruction of the first volume of his great work on the "French Revolution." This letter shows how Carlyle, querulous and irritable as he too often was in the smaller affairs of life, could meet a great misfortune. The author avoids controversy. He shows us Carlyle in many moods and places, "ofttimes disturbed on the surface by trifling troubles, but never diverted from what he believed to be right and true." The book is written with discrimination and judgment and may be widely read with advantage.

The Effects of Tropical Light on White Men. By Major CHAS. E. WOODRUFF, A.M., M.D., Surgeon, United States Army. London and New York: Rebman, Limited. 1905. Pp. 358. Price 10*s.* 6*d.* net.—This is an interesting volume and will well repay the reader for the time spent in its perusal. The basis for all the arguments is that living forms are distributed in zones the boundaries of which are isothermals. A species is sharply limited in the northern and southern extensions and though it may be found over longer distances east and west it is never found out of its zone. Migration is followed by extinction sooner or later, for acclimatisation is not possible. The work had its origin in an attempt to prove or to disprove the theory, announced by von Schmaedel in a paper read before the Anthropological Society of Munich in 1895, that pigmentation of the skin in man was evolved for the purpose of excluding the dangerous actinic rays of light which destroy living protoplasm. It gave at once the reasons for the evolution of nigrescence and blondness, the reasons why Europeans have always failed to colonise in the tropics, and the reasons why blonds disappear when they migrate from their northern home. Man, evolved from one or more anthropoid types by the law of selection, gradually spread to new environments to which he became adjusted by the same law of the survival of the fittest variations. Hence arose a separate type in each zoological zone, and each type is unfitted for residence in any other zone markedly different from the ancestral one. In the section on the Disappearance of Blond Aryan Immigrants the author says: "Scarcely a work on the subject has clearly and definitely grasped the main reason—namely, that a civilisation dies because the people who built it up die out from climatic unfitness. All the ancient subtropical civilisations were built up by men who had migrated south of their zones, and the men perished chiefly because they possessed too little pigment for the tropical light to which they were subjected." It is latitude, modified by afforestation and cloudiness, which determines fitness as to pigmentation, though it is slightly modified by elevation. The author writes that the "evolution of blondness required a cold, dark, northern country—probably a cloudy, rainy, misty, forest country—the exact conditions needed for the evolution of the brain by natural selection and the exact conditions of the countries where we have placed the origin of the Aryan or Teuton." He dwells on the superiority of the blond over the brunette in many ways and on many questions and points out that the submissiveness to authority so characteristic of the dark races, the Mediterranean type and the Alpine or Asiatic type, is one reason for the evolution of that type of Christianity found in the Roman and Greek churches. This submissiveness is repugnant to the "free and contentious" blond Aryan; consequently the Baltic type of a man is a Protestant, as we see in Scandinavia, around the Baltic, in North Germany, Holland, Scotland, and Northern Ireland. The final chapter (XIII.), headed Practical Rules for White Men in the Tropics, is a valuable one and the contentions and recommendations are, on the whole, wise. Major Woodruff is opposed to any calisthenics and out-door sports which are indulged in for the sole purpose of increasing the musculature and recommends that athletic contests should be abolished in the tropics. The book is one specially for anthropologists but it will interest all those who are living in the tropics where it will be welcomed.

JOURNALS AND MAGAZINES.

Caledonian Medical Journal.—In the April number Dr. James Mackenzie of Burnley makes some suggestions for the observations of new paths in the spinal cord. He considers that the manner in which pain spreads often shows unmistakably that there must be paths in the spinal cord which are independent of segmentation. Dr. S. R. Macphail of Darby writes on the relations which formerly existed between the surgeons and the barbers in each of the three divisions of the United Kingdom. In London the barber surgeons and the surgeons proper were incorporated by Act of Parliament in 1540 and separated in 1745, when the Surgeons' Company was formed. In Dublin the barber surgeons and the surgeons were amalgamated in 1576 and separated in 1784, the Irish College of Surgeons being founded immediately. In Scotland the procedure was different. In 1505 the incorporation of barber surgeons of Edinburgh obtained from King James IV. of Scotland the foundation charter of the College of Surgeons of Edinburgh, which will in the month of July this year celebrate its quatercentenary. The separation between the Scottish surgeons and barbers was not abrupt or formal but came about gradually by the barber surgeons recognising that practising as barbers was unsuitable to the

position as surgeons. It is announced that the annual meeting of the Caledonian Medical Society will be held in Manchester on June 23rd.

New Inventions.

THE TYPHOID AGGLUTOMETER.

WE have received from Messrs. Parke, Davis and Co. a handy little apparatus for the performance of the Gruber-Widal test for typhoid fever without the use of a microscope. It consists of four small tubes each containing a suspension of dead typhoid bacilli arranged side by side in a stand; three of these tubes are for inoculation with the serum to be investigated, the fourth being left as a control. Apparatus is also supplied for collecting the blood, diluting the serum obtained from it, and for inoculating the tubes. The method of procedure is as follows: a few drops of blood are received into a short wide tube labeled "blood tube" and allowed to coagulate; the serum, which separates, is drawn up into a glass tube with a rubber bulb and two drops are then dropped into a tube containing fluid, labeled "serum diluting fluid," and well mixed. Varying quantities of the serum thus diluted are dropped into the three typhoid suspensions so as to give dilutions of 1 in 30, 1 in 50, and 1 in 100, respectively. These tubes are then corked and shaken to insure admixture and then placed in a warm room, an incubator not being necessary. If a positive reaction results flocculi appear in one or more of the tubes, which must be carefully compared with the control. In the course of a few hours these flocculi sink to form a distinct layer at the bottom of the tube. We have tested the apparatus with the blood of a case of typhoid fever, which gave a well-marked reaction with the 1 in 30 and 1 in 50 tubes within three hours and a slight precipitate in the 1 in 100 tube, a deposit being very distinct in all three 12 hours afterwards. The apparatus was kept in an ordinary warm room and not in an incubator. A control performed with the serum of the same case by means of the ordinary Widal test with the microscope gave a good agglutination with a dilution of 1 in 40 in about half an hour.

The apparatus is supplied in a convenient form and is easy to use, the directions given with each apparatus being clear and explicit. Each agglutometer serves for one test only. It should be of use in general practice, especially where laboratory assistance is difficult to obtain, since the information afforded by the test appears to be as trustworthy as that afforded by the usual laboratory method. It will be remembered that the original reaction as described by Gruber was a macroscopic method and that for some time past dead cultures have been used, especially in Germany, where recently a considerable amount of work has been carried out with cultures treated with formaline and by means of Ficker's method, also presumably a method with dead cultures, although details of the preparation of his reagent are withheld by the author. Some German authors[1] maintain that more uniformly trustworthy results are obtained by these means than by the ordinary method of employing living cultures and the microscopic study of the clumping process.

AN ACCESSORY FOR FREEZING MICROTOMES.

DURING the hot weather it is not easy to cut sections on the microtome by the freezing method whether with the ice well or ether-spray microtome. During the past few months I have used a simple device which makes one practically independent of the atmospheric temperature. The illustration shows the device standing on the stage of an ether freezing microtome. It is a box of thin metal, the walls of which are prolonged below the bottom of the box for the distance of a centimetre; the box is clothed in a jacket of felt. When sections are to be cut a lump of ice of the size of the fist is slung in a towel, well beaten against the floor and the pounded ice is put into the box in alternate layers with common salt to fill the box. By standing the ice chamber above the die on which the gum-soaked block of tissue is placed the specimen is inclosed in an atmosphere below freezing point so that the cooling agent below the die rapidly freezes the block. The saving in time is surprising whilst the diminished quantity of ether used in spraying is no small gain, not to mention the reduction of the wearisome labour of bellows blowing, also when using the ice chamber

blocks of tissue of larger area and thickness can be frozen than is possible without its aid. During the intervals of use the water should be poured out of the box occasionally, the ice rammed down to the bottom, and if the chamber be stood on a non-conducting surface as a glass plate the freezing mixture will remain useful for an hour or more. The ice chamber is made by Messrs. J. Swift and Sons of Tottenham Court-road, W.; its cost is small.

Queen Anne-street, W. N. BISHOP HARMAN.

[1] Lion: Münchener Medicinische Wochenschrift, 1904, No. 21.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 2, 1827.

DISSECTION.

To the Editor of THE LANCET.

SIR,—Should any measure be brought before Parliament for the general improvement of our medical legislation, I would suggest that a clause be introduced to legalise the transfer of our corporeal frame by post obit, in the same way as any other property, and rendering it obligatory upon the executors, as survivors, to fulfil the bond.

For myself, I have a great antipathy to being dissected by worms, and would much rather my body was submitted to the scalpel of some elegant and scientific anatomist. It is really astonishing to me, Sir, that such prejudice should exist against dissection, and that people should be so anxious to be immured in a cold dark hole, there to become the prey of a set of loathsome zoophytes; how much more congenial it appears to have one's bones scraped beautifully clean, arranged after the order of Nature, and hung up in some chimney corner, or perchance honoured with a glass case! There would then be some pleasure in returning from the world of spirits to revisit our earthly tabernacle, and perhaps see some old friend again shake our bunch of phalanges, and, like Hamlet, soliloquize over the sad remnants of mortality.

Another advantage attending this method is, that when the trumpet sounds, one will know where to find one's self, and instead of grubbing and squabbling for bones* in a church-yard, be able to pack up and be off at a moment's notice!

I am, Sir, yours, &c.

Loughton, Essex. NON-MEDICUS.

* Old Spanish apologue.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

WEDNESDAY, MAY 24TH.

THE Council resumed, Dr. MACALISTER, the President, being in the chair.

The Case of Mr. P. H. Watson.

The Council considered the case of Percival Humble Watson, registered as of the Grand Hotel, Trafalgar-square, London, W.C., Mem. R. Coll. Surg. Eng. 1873, Lic. R. Coll. Phys. Lond. 1876, who had been summoned to appear before the Council to answer the following charge as formulated by the Council's solicitor:—

That you abused your position as a medical man by committing adultery with a patient—namely, Mrs. Manford, a married woman, whom you had been and were attending professionally, of which adultery you were found guilty by decree of the Probate, Divorce, and Admiralty Division (Divorce) of the High Court of Justice.

Mr. D. Macmillan, solicitor, appeared for the complainant, Dr. Manford, and Mr. F. Marshall, solicitor, for the defendant.

Mr. G. L. Lushington acted as legal assessor to the Council.

Mr. MACMILLAN, in presenting the case, said that Dr. Manford did not wish to act in any vindictive manner against Mr. Watson, but he thought that the facts of the case ought to be brought before the Council.

Dr. MANFORD went into the witness-box and, after swearing to the truth of his declaration, stated that Mr. Watson was his wife's regular adviser and that the decree of divorce was made absolute on Jan. 27th, 1905.

Cross-examined by Mr. MARSHALL: He had understood counsel to say during the divorce proceedings that they put in no defence.

Mr. MARSHALL declared that there was a defence, that counsel appeared, and that the defence was not withdrawn. Though the defence was not persisted in at the hearing it was not withdrawn.

Addressing the Council on behalf of his client,

Mr. MARSHALL said that Mr. Watson denied having abused his professional position or committed adultery with Mrs. Manford. No specific act of adultery was proved in the Divorce Court. Mr. Watson was now a ship's surgeon and had been compelled to leave on a voyage in April, that being the reason why he was not present. He contended that more required to be proved than the mere fact that a medical man had committed adultery with a lady who had been a patient. The decree was not evidence that adultery had been committed during professional relations. There was no evidence that adultery took place during the visits of the medical man. He added for the consideration of the Council that Mr. Watson was a man of 53 with a wife and daughter depending on him.

The Council having sat *in camerâ*,

The PRESIDENT intimated that the Council had determined that the facts alleged against Percival Humble Watson in the inquiry had been proved to the satisfaction of the Council and that they had judged him to be guilty of infamous conduct in a professional sense and had directed the Registrar to erase the name of Percival Humble Watson.

The Case of Mr. W. P. Kirwan.

The Council then proceeded with the consideration of the case of William Patrick Kirwan, registered as of 21, Danbury-street, Islington, N., Lic. R. Coll. Phys. Edin. 1882, Lic. R. Coll. Surg. Edin. 1882, who had been summoned to appear before the Council to answer the following charges as formulated by the Council's solicitor:—

1. That you have associated yourself with a medical aid association—namely, a firm of chemists trading at various addresses as the Acme Medical Hall and Pharmacy—which association has systematically, by means of printed circulars, cards, labels, and notices, printed and painted, advertised your practice, names, and qualifications, and thereby canvassed for patients for you.
2. That you have enabled certain persons in the employ of the Acme Medical Hall and Pharmacy to practise medicine and to treat patients as if qualified by law to do so.

Dr. A. G. Bateman, secretary, and Mr. Hempson, solicitor of the Medical Defence Union, appeared as complainants.

The defendant appeared on his own behalf.

Dr. BATEMAN, in presenting the case, said that in October last attention was called by several medical men living in Islington and one of His Majesty's coroners to the fact that certain circulars advertising Mr. Kirwan had been issued. Information was also laid before the Medical Defence Union that visiting cards with Mr. Kirwan's address and hours of consultation had been placed in the doorway of a great many houses. Dr. Bateman directed particular attention to a circular from Messrs. H. Forewell and Co. stating that they had entered into an agreement with Mr. Kirwan and giving the hours of consultation. He also alluded to the signs over the defendant's premises and the serving of medicine by unqualified employés and contended that there had been advertising.

A clerk, named T. W. TYRRELL, who procured medicine from the defendant's assistants, gave evidence in which he said his impression was that the three establishments which he visited at Danbury-street, Islington, Silver-street, Notting-hill-gate, and Fulham Palace-road were run by a company. They were ordinary chemists' shops. Not until he came near them did he see Mr. Kirwan's name.

The DEFENDANT, in stating his defence, said that after practising for a long time in the West of Ireland he came to London in October with a small capital and purchased the lease of the place in Danbury-street. That place had been carried on as an open surgery for 40 years. After 23 years' residence in the West of Ireland he had no idea that he could not keep an open surgery. Having to go to Ireland to bring over his family he received a letter while there from the Medical Defence Union and he immediately wrote to Mr. Forewell, who was a chemist, to destroy at once the circulars that had his name on them. Mr. Forewell had *carte blanche*, and he had put up a placard which had since been removed. He had also sent out circulars, but the moment he (the defendant) heard that that was objectionable they were destroyed. No cards or anything else of that description had been sent out for months, and he would be only too happy to carry out any instructions of the General Medical Council. He had never authorised his dispensers to practise medicine in any shape or form and they had not done so.

In their evidence the two dispensers, Mr. G. R. CARPENTER and Mr. E. PEARCE, denied that they had attempted to act as medical men.

The DEFENDANT then went into the witness box and stated that he had given strict instructions to his men not to sell poisons. The circulars relating to Forewell and Company, chemists, had been done away with; they were issued while he was in Ireland and he had them stopped when he was there. He never saw the circulars till he returned from Ireland.

The Council considered their judgment *in camerâ*.

The PRESIDENT announced that the Council had resolved that the facts alleged against William Patrick Kirwan had been proved to the satisfaction of the Council. The Council had also resolved that the further consideration of the charge against him should be adjourned to the next session in November. He would then have to appear before the Council and its judgment on the case would depend on the information it could have with regard to the conduct of his practice during the interval. He would have observed from the facts alleged against him what were the matters to which his attention must be most carefully given, relating to advertising, canvassing, and unqualified persons acting for him. The Council would have to be assured on those points in November.

The Council then adjourned till the following day.

THURSDAY, MAY 25TH.

The Council resumed, Dr. MacAlister, the President, being in the chair.

The Case of Dr. A. C. M'Arthur.

The Council considered *in camerâ* the case of Alexander Christie M'Arthur, registered as of Grafton, Clarence River, New South Wales, M.B., Mast. Surg., 1892, Univ. Glasg.

After consideration the PRESIDENT announced that the defendant had been summoned to appear before the Council to answer the charge that he abused his position as a medical man by eloping with a patient, a married woman, whom he had been, and was at the time, attending professionally. With regard to the charge the Council had resolved that the facts alleged against Alexander Christie M'Arthur had been proved to the satisfaction of the Council. The Council had also

decided to judge Alexander Christie M'Arthur to be guilty of infamous conduct in a professional respect and had directed the Registrar to erase from the Register the name of Alexander Christie M'Arthur.

The Case of Mr. William Jones.

The Council then considered the case of William Jones, in regard to whom the Dental Committee had found that the following facts were established by the evidence:—

1. William Jones was registered in the Dentists Register on Nov. 22th, 1878, as in practice before July 22nd, 1878, and his address in the Dentists Register is The Arcade, 85, Lord-street, Liverpool.

2. Being a registered dentist he has sought to attract business by a system of extensive public advertisements of an objectionable character containing his name, address, and qualifications, praising his own professional skill and preparations, instituting comparisons between his own work and that of other practitioners, and claiming superiority over other practitioners and depreciating their work.

3. The said William Jones personally and in a letter to the solicitor to the Council, dated May 19th, 1905, undertook not to advertise in such a way as to praise his own professional skill and preparations, nor to institute comparisons between his own work and that of other practitioners, nor to depreciate their work, nor to claim superiority over them, nor to issue any advertisements containing his photograph.

4. The evidence before the committee consisted of:—

(a) Advertisements by the said William Jones in two pamphlets issued and circulated by the said William Jones in two editions. "The Incorporated Trade Protection Society Circular," Nov. 3rd, 1904; "Torrey Alexander Mission Record," Nov. 19th, 1904; the *Porcupine*, Feb. 4th, 1905; a handbill headed Anodynol J, registered, produced by the said William Jones; and other publications admitted by the said William Jones.

(b) A statutory declaration of Thomas Woods, of 76, Bradford-street, Bolton, private inquiry agent, and two exhibits thereto being the earlier edition of the two above-mentioned pamphlets issued and circulated by the said William Jones.

(c) The statements and admissions of the said William Jones made before the committee.

Mr. HUGO YOUNG, K.C., appeared before the Council for the defendant and Mr. R. W. TURNER for the complainants, the British Dental Association.

The PRESIDENT intimated that as the case had been heard by the Dental Committee the question before the Council was the judgment on the facts.

Mr. HUGO YOUNG pointed out that the facts as found by the committee were a very short summary of the evidence brought before that committee.

The PRESIDENT remarked that it was out of order to go into the facts again.

Mr. HUGO YOUNG said he wished to observe that Mr. Jones had undertaken not to do any of those things which the committee referred to. The extreme measure of striking Mr. Jones off the list of registered dentists would be a somewhat unnecessary and hard punishment of what he had done. He had inadvertently published advertisements which had been found to be of an objectionable character. He had done nothing maliciously and did not desire to set himself up in defiance to the wishes of the Council. Although the committee had found those advertisements to be objectionable they might be characterised chiefly as advertisements objectionable because wanting in good taste as distinguished from advertisements that were, within the meaning of the Act of Parliament, disgraceful or infamous. For a mere error of judgment or taste, he submitted, some correction less than actual striking off the register would meet the justice of the case.

Mr. TURNER said they had here on the Register a person who desired to be at the same time a tradesman and a professional man. If the Council adjourned the case for six months it must be done in such a way as to show Mr. Jones and others that the Council did not recognise in any shape or form what some people called the right to advertise.

After the Council had considered its judgment *in camerâ*,

The PRESIDENT said the decision was that, on the facts found in the report of the Dental Committee, it had been proved that William Jones had been guilty of conduct which had been infamous or disgraceful in a professional respect, and the Council had directed the Registrar to erase from the Register the name of William Jones.

Visitation and Inspection of Qualifying Examinations.

On the resumption of the discussion on the revised standing orders relating to the visitation and inspection of qualifying examinations Dr. MCVAIL moved that they be remitted to the Executive Committee for further consideration and that the committee should consult counsel as to the agreement of the proposed standing orders with Section 3 of the Medical Act of 1886. He said there were points which members did not understand and it would save time if the regulations were remitted.

Mr. YOUNG seconded the motion.

Sir VICTOR HORSLEY asked whether a special meeting of the Executive Committee might not be summoned for the following day.

The PRESIDENT said he did not think the committee regarded the matter as being so urgent as to require them to press counsel for an immediate opinion. As there should be no doubt remaining in the minds of members regarding the regulations he thought the committee would have no objection to the step suggested.

Dr. McVail's motion was then agreed to.

Qualification for Public Health Diploma.

Dr. BRUCE submitted the report of the Public Health Committee which was received and entered on the minutes. He moved the adoption of a recommendation that a note should be added to Rule 3 in the resolutions and rules adopted by the General Medical Council for diplomas in public health to the following effect:—

Note (3).—A candidate who shall have produced evidence that he has himself held for a period of not less than three years an appointment as medical officer of health of a sanitary district having a population of not less than 15,000 may be exempted from the requirement of Rule 3.

The committee in its reference to this matter expressed the opinion that a note containing a similar exemption was dropped out of the existing regulations by inadvertence. The committee thought it desirable that a note conferring such exemption should be re-introduced. The experience of sanitary administration which it was the purpose of Rule 3 to require would be adequately secured in the case of a candidate who had himself for a sufficient time and in a district of sufficient extent been the responsible officer of health. In view, however, of certain changes in the conditions of public health administration the committee thought it desirable that the period of service and the population of the sanitary district should now be more exactly defined than in the note above referred to. Dr. Bruce said the Council had to consider whether the candidate should be required to hold the appointment for a certain number of years and what limit of population should be fixed. The meaning of the note was that a man who held an appointment for three years in a district the population of which was 15,000 would be freed from what he might call a second apprenticeship.

Dr. LINDSAY STEVEN seconded the motion for approval of the note.

The PRESIDENT said he thought the Public Health Committee had decided wisely. If the Council agreed that such a note should be inserted its general character and application to all cases would avoid the necessity for applications to the Council for exemption.

Sir JOHN WILLIAM MOORE thought the population limit seemed rather low. To reduce it to 15,000 was to open the door a little too widely.

Dr. BRUCE said the committee considered 15,000 the proper number as being a fair medium.

Dr. LINDSAY STEVEN said it had been pointed out by Mr. Power that if the number were raised to 20,000 they would not be granting any very great privilege because advantage of the rule could not be taken by a great number of men. On the other hand, if they reduced the number to 10,000 they would make it rather easy.

Mr. BROWN was of opinion that in mining villages and other small places the duties of medical officers were often more onerous than those of medical officers in large towns and consideration ought to be had for such men.

Dr. MCVAIL thought that the proposal of the committee was a great relaxation and ought to be limited to a period of time. He could imagine a man who had not studied the question and who had no knowledge other than what he got with his ordinary diploma or degree being of little use as an officer of health at the end of three years. By this note he thought the Council would be encouraging public bodies to appoint men without a diploma in public health.

The PRESIDENT said Dr. McVail misapprehended to some extent the effect of the note. The Council did not need to be afraid that the educational value obtained from the effect of this note would be anything less than the educational value of Rule 3 without the note. He did not believe in the operation of a time limit in matters of this kind. The effect of leaving out the note would not be to encourage the local authorities to appoint holders of diplomas in public health. If they found that candidates for those posts had not diplomas and could not easily get them they would still appoint men without them and the action of the Council in the matter would be left out of account.

Sir JOHN BATTY TUKE said that he had given up the public health diploma in despair. They had whittled it down and watered it down year after year.

Dr. MCVAIL moved as an amendment that the proposed note should cease to be of effect five years from this date. He said he was astonished that the President should advocate in regard to public health what was equivalent to unqualified practice.

The PRESIDENT said that he must disclaim any such interpretation of his remarks.

Dr. MCVAIL said it was as it appeared to him.

Sir JOHN BATTY TUKE seconded the amendment.

Mr. MORRIS wished to know whether there would be accommodation in hospitals and elsewhere for the candidates to qualify for admission to the examinations that at present existed.

Sir JOHN W. MOORE pointed out that this was no new regulation at all. It was a note that had fallen out inadvertently.

The PRESIDENT, in the course of further remarks, said that they were tightening up Rule 3 and not lightening it.

Dr. BRUCE said that with the limits of 15,000 of a population and three years of service it was quite safe to carry his motion.

Dr. LITTLE expressed the opinion that the number of population should be reduced to 10,000.

On a division Dr. McVail's amendment was rejected by 17 votes against three. Ten members did not vote and three were absent.

Sir WILLIAM THOMSON moved as an amendment after the word "district" to insert "within the British Dominions and."

This was seconded by Mr. JACKSON and agreed to.

Dr. BRUCE'S motion was then carried and the note as amended approved.

The Case of Mr. Herbert Du Cane.

The Council considered the case of Herbert Du Cane, registered as of 56, Bolton-road, Darwen, Lancs., Lic. Soc. Apoth. Lond., 1890, who had been summoned to appear before the Council to answer the following charge, as formulated by the Council's solicitor:—

That you abused your position as a medical man by committing adultery with a patient—namely, Mrs. Taylor, a married woman, whom you had been and were attending professionally.

Mr. Danckwerts, K.C., and Mr. Ellis Griffith appeared for the defendant, and Mr. F. G. Hindle, solicitor, for the complainants (the Darwen Medical Society).

Mr. HINDLE opened the case for the complainants. He read a letter of confession written by Mr. Du Cane to Mr. Taylor and a declaration by Mr. Taylor regarding the regular professional attendance of Mr. Du Cane upon his family. A declaration was also read by Mr. William Standing, a chemist, who made up a prescription of Mr. Du Cane's for Mr. Taylor in January, 1904, as well as a declaration by a domestic servant regarding the dates of Mr. Du Cane's attendance. He contended that the defendant was in regular attendance on Mrs. Taylor, Mr. Taylor, and their child up to the very time of the elopement and mentioned that a decree nisi was obtained by Mr. Taylor on Nov. 25th last.

Mr. TAYLOR gave evidence in support of his declaration, stating that Mr. Du Cane was in regular attendance on his wife.

Mr. DANCKWERTS, addressing the Council on behalf of Mr. Du Cane, said that the defendant and Mrs. Taylor were both in Australia. He submitted that no evidence had been placed before the Council to prove that Mr. Du Cane used his professional position to steal the affections of Mrs. Taylor. The whole case hung upon Mr. Taylor's recollection and he asked the Council to give Mr. Du Cane the benefit of the doubt.

The Council having sat *in camerâ*,

The PRESIDENT announced that the Council had decided that the facts alleged against Herbert Du Cane in the notice of inquiry had been proved to the satisfaction of the Council and the Council had judged him to be guilty of infamous conduct in a professional respect and had directed the Registrar to erase from the Medical Register the name of Herbert Du Cane.

The Council then adjourned.

FRIDAY, MAY 26TH.

The Council resumed, the President (Dr. MACALISTER) being in the chair.

Diplomas in Public Health.

Dr. BRUCE moved the approval of a recommendation by the Public Health Committee to the effect that under Rule 3 relating to diplomas in public health candidates might produce evidence that they had been diligently engaged in acquiring a practical knowledge of the duties of public health administration under supervision of —— "outside the United Kingdom, a medical officer of health of a sanitary district having a population of not less than 30,000, who himself holds a registrable diploma in public health." He said it was right that the civil medical man should have the same privilege as medical officers in the army service. In proposing this amendment of the rules they were not in any way relaxing them but simply defining them. In his view they ought not to relax or in any way decrease the value of the diploma. He would be the last man to depreciate the diploma and he would be very glad if more men held it. He submitted a table showing that in the ten years ending 1904 the registrations of public health diplomas in England numbered 339, in Scotland 248, and in Ireland 83. He did not think that the remark levelled at them by Sir John Tuke was justified. They had not been on the downward grade.

Sir JOHN W. MOORE, in seconding the motion, suggested that the words "within the British Dominions" should be inserted.

This was agreed to.

Dr. BRUCE pointed out that the effect of Scotland leading the van in public health was that Scotsmen were insisting more and more on taking advantage of the public health diploma. The increase in the registration was due to Scotland and Ireland.

The PRESIDENT remarked that the superiority of Scotsmen would be more marked when they extended this provision outside the United Kingdom.

Mr. THOMSON said he did not see why men with experience who had obtained offices in the Colonies should be in a different position from that of men in the United Kingdom.

Dr. BRUCE'S motion was then adopted.

Report of the Education Committee.

Dr. WINDLE submitted the following report of the Education Committee.

I. TEACHING WITHOUT EXAMINATION.

In the May session of 1904 the following resolution was passed by the Council: That the Education Committee be requested to collect information and report on the question of the possibility of including certain subjects in the curriculum without requiring examination in them.

The Education Committee desires to report that it has endeavoured, though without great success, to elicit the information which the Council requested. It was, in the first instance, decided that it was not advisable that any licensing body should be asked whether, in its opinion, there were any subjects of the present curriculum which might be taught without being examined upon. The inquiries made were therefore limited to what had taken place in the past.

It appears that in some cases the following subjects—vaccination, ophthalmology, mental diseases, infectious diseases—whilst required as part of the curriculum, are not specially examined upon—that is to say, there is no separate examination in one or more of these subjects. At the same time, students are given to understand that questions on any or all of these subjects may form a part of one or other of the papers set at the examination. It cannot, therefore, be said that there is any subject in the curriculum at present which is definitely excluded from examination.

The Education Committee has also endeavoured to ascertain whether any light could be thrown on the subject by continental experience and in this connexion has to thank Dr. H. Frank Heath of the Education Department for the information and papers which he has been good enough to supply it with. It appears that there is no country in Europe in which the certificate of a professor as to satisfactory attendance is accepted in the Faculty of Medicine, or indeed in any other Faculty, in the place of an examination. The need for such a device for moderating the rigours of the examination system as it flourishes here has never presented itself, for with the possible exception of Sweden (where the system has certain resemblances with our own) the examination is never divorced from the teaching and the record of the student's work in the schoolroom, laboratory, and hospital is always a most important factor in the ultimate decision. There is a centralised external examination in medicine held in Brussels by representatives from all the universities in Belgium at which medical students from any one university may present themselves if they so desire.

It would appear that there are special local reasons which may account for this examination, which in any case is very unusual in its nature.

We are informed by Dr. Heath that the only real parallel to the methods pursued in the United Kingdom is the examination system of China.

The Education Committee has therefore to report that its inquiry has led to information of a more or less negative character save in so far that it has brought out the fact that the examination of students abroad is almost entirely—generally entirely—in the hands of those who have taught them. Some at least of those who are in favour of the system of permitting certain courses to be taken out without requiring an examination to be held in them would probably

agree that no such course should be considered to have been satisfactorily followed unless the teacher of that course had certified that the student had passed his class examination. Such a method, it must be admitted, would very closely resemble that in vogue on the continent.

II. APPLICATION FROM THE UNIVERSITY OF LONDON.

The committee has received an application from the University of London for the recognition of a junior schools examination not qualifying for matriculation in the university and has replied that it is at present unable to comply with any application of this kind.

Dr. Windle moved that the report should be received and entered on the minutes.

Dr. NORMAN MOORE seconded the motion.

Dr. MACKAY said he thought the subject matter of the first part of the report was of the very greatest importance. The whole question of examination and its relation to teaching had already been discussed by the Council and what they had heard was only a stage in the further illustration of the matter. He would be the last to suggest that examinations should be done away with. He felt certain that particularly with respect to the final subjects of medicine it was of the utmost importance that every licensing body should take care that those who received its licence were fully qualified for the work they took in hand. He should be very much inclined to have the final examinations of the different licensing bodies very much improved and extended. He thought those subjects mentioned in the report—vaccination, ophthalmology, mental diseases, infectious diseases—should all form an integral part and not merely a chance part of the examinations. When they came to deal with the earlier subjects of the curriculum, which properly were only to be regarded as preparatory to the great final test of medicine, he thought the question of examination assumed a very different form indeed and that undue and over severe examination might tend to destroy the efficiency of the teaching in those subjects. While it was of great importance, for instance, that students should have a knowledge of the principles of biology, if the subject was made examinable, and if during the three months, which was all that the greatest universities could devote to it, they compelled students to get up the subject, the students were forced from the outset of their curriculum to adopt a wrong method of study. The methods of preparation for examination were very different from methods of real study. The evils of examination did not lie with the General Medical Council because that matter was in the hands of the universities and other bodies and it was from them that the remedy must come. The Council had done good in the past by directing the attention of bodies to the suggestions they had made. The Council by keeping before it a distinct method in medical education could do a very great deal. He would point out that the Council in the Acts which governed its procedure had power to inquire into courses of study held by the different licensing bodies and the various examinations of those bodies. The Council had recently conducted an examination of the first professional examination and it was right that it should exercise the power if it had any reason to believe that the courses of study were not sufficient. On the other hand, he did not think the Council should make a settled policy of examining the earlier examinations. He feared that would increase the stringency of examinations and the difficulty of the medical students. It should be only in exceptional cases that that work should be taken up by the Council. He thought the Council was not in a position to go any further in its special efforts in this direction without having further information. The matter was of the greatest importance and he thought they ought to find out what was the custom in the different countries of Europe and America and that at any rate the Council should know what other countries were doing in the way of medical education. Though it was a difficult task, still he thought the Education Committee if given sufficient time ought to be capable of fulfilling it. The suggestion which he would afterwards put forward as a motion was that it should be remitted to the Education Committee to prepare and to present to the Council a detailed report upon the system of examination in medicine followed in other countries with the special object of determining the number of professional examinations demanded, the subjects included in these examinations, and the value, if any, attached to the records of class attendance and work. He did not think this work could be accomplished speedily but in course of time the Education Committee would be able to report some very valuable information which would lead to good results.

Dr. LINDSAY STEVEN said he had given this matter considerable attention and he had had the opportunity of bringing it before his constituents and discussing it with them. The opinion he found to prevail in that part of the profession which he represented was that it would be an exceedingly dangerous thing to include within the curriculum either in the earlier part or the later part a compulsory course upon which there should be no professional examination. Nothing had come out in this report by the Education Committee that had led him to disagree with that opinion or to alter his own personal opinion. It was a dangerous thing to make compulsory courses in a curriculum and not demand a professional examination upon them.

Dr. PYE SMITH said he wished to bring before the Council the subject of a junior schools examination which the University of London wished the Council to recognise as qualifying for the subject for which it was held. The University of London asked that this school examination should from the point of view of the Council be on the same footing as the similar Oxford and Cambridge examination.

Sir WILLIAM TURNER said that he would like some information. Was this examination conducted by the University of London through examiners appointed for the purpose and was it intended to take place as a leaving certificate examination representing the state of knowledge of a boy of 15 or 16?

Dr. PYE-SMITH replied in the affirmative and added, in reply to a further question, that the examination was not to occupy any position in the scheme of graduation.

Dr. WINDLE said that the matter ought to be explained fully. The Consultative Committee submitted to the Council and other educational bodies a scheme which contemplated the holding of leaving examinations of two grades in secondary schools. Those examinations presented several cardinal points—first, that they would be on the curriculum of the school; secondly, that they would be held by the teachers of the school; and, thirdly, that they were to qualify, if possible, for matriculation and other professional examinations. The Consultative Committee only asked that the senior of those examinations should be accepted, in view of the examinations which the Council now accepted for entrance to the medical curriculum and not the junior one. That was made clear at the conference. Incited by this hope of the authors of the scheme universities had tried to arrange a similar plan and the University of London originally proposed a senior school leaving examination which it was prepared to accept, in view of its own matriculation. That examination was brought under the cognisance of the Education Committee and the Education Committee at once accepted it because it was felt that as it was accepted by the University itself as the entrance to its own professional matriculation there could be no question of accepting it as the entrance to any other matriculation. But they now came to this junior leaving examination which was not going to admit to any further examinations in the University of London. So far as the student was concerned he was as absolutely an outsider in the University of London as if he had never presented himself for this examination and passed it. But it was asked that this should be accepted as admitting students to other diplomas. It seemed rather a curious procedure but it had a certain parallel in the examinations of the junior Oxford and Cambridge local. That parallel was not so close as it would appear to those who were not quite familiar with the case. The Oxford and Cambridge examination was accepted for a considerable number of years because there was a need. It was an examination largely held in schools and it was held to be a great advantage not to compel those schools to take another examination and it had been accepted for some time as an examination qualifying for admission to the curriculum. But of late years the junior local examination of Oxford and Cambridge had not been accepted as such. The Universities of Oxford and Cambridge, desiring, however, that their examinations in schools should not fall out as qualifying examinations for medical students, had arranged in connexion with the local examination a special preliminary medical examination which was held with it, but which was of a higher standard and more stringency. The percentage of failures at that examination was about 80 per cent., whereas the percentage of failures in the junior examination was very much lower. The Oxford and Cambridge local might be considered as equivalent to what was now proposed by the University of London, but that was not the examination the Council

accepted but a totally different thing. What was pointed out in the letter that was being sent to the registrar of the University of London was that if the University of London chose in connexion with this junior leaving certificate examination to set up a medical preliminary examination as the Oxford and Cambridge Local Board had done the Education Committee then would be quite ready to examine the regulations and conditions of the examination and to accept it if it found it was of the scope and character which the Education Committee had been in the habit of demanding. This was only the first of a series of applications that would arise and the Council must have a policy. The Education Committee was quite clear as to what its policy was.

The PRESIDENT remarked that Oxford and Cambridge had also established junior schools examinations, but they had not applied for the recognition of these for the medical curriculum because they did not consider them up to the mark. These examinations were on the same level as the junior schools examination of the University of London.

The motion was agreed to and the report was received and entered on the minutes.

Dr. MACKAY then proposed his motion, viz. :—

That it be remitted to the Education Committee to prepare and present to the Council a detailed report upon the system of examination in medicine followed in other countries with the special object of determining the number of professional examinations demanded, the subjects included in these examinations, and the value, if any, attached to the records of class attendance and work.

He said the motion only asked that their information should be more detailed and precise.

Sir JOHN BATTY TUKE seconded the motion.

Dr. PYE-SMITH said that with respect to Dr. Windle's exposition he had nothing to say against it, but while recognising the importance of keeping up those examinations to a high level he thought the examination as proposed by the University of London did preserve a high level of a school leaving examination. He could not, of course, pledge the Senate, but he might say that it would be the last to wish to lower the standard. The reply of Dr. Windle would enlighten them and pave the way, he thought, to an examination which would be acceptable to Dr. Windle himself.

Dr. WINDLE, referring to the motion before the Council, said that while such a report as Dr. Mackay proposed would be very interesting and useful it would be very laborious work to draw it up. The pith of the information which could be elicited by such a motion was really contained in the report of the Education Committee.

Dr. LITTLE remarked that the Education Committee was already overworked.

Several other members alluded to the great amount of work which Dr. Mackay was proposing to put upon the Education Committee.

Sir JOHN BATTY TUKE said that if they could bring their examinations down to one long final examination it would do a great deal of good to the student and a great deal of harm to the crammer.

Dr. MACKAY said the work did not require to extend to the length suggested. They might give a very useful summary of the method of examination in this country on a couple of pages and they might do the same in the case of America, Germany, France, and Italy.

With the leave of the Council the words "a committee" were substituted for "the Education Committee."

The motion so amended was put to the vote and rejected by 11 votes against 9.

Dr. LINDSAY STEVEN asked Dr. Windle whether the committee had anything to report on the remit of last November to consider whether the adoption by the Council of one or either or both of the following resolutions would not help to secure the attainment of the objects the Council had in view in instituting the five years' curriculum—viz., (1) that the preliminary scientific examination in physics, biology, and chemistry should be passed before the student begins the qualifying stage of anatomy and physiology; and (2) before being admitted to the final examination the student should produce evidence that he has devoted the last year of his curriculum exclusively to practical and clinical work and study.

Dr. WINDLE said the committee was not yet in a position to report on that matter.

The PRESIDENT said that no doubt the Education Committee would thank Dr. Lindsay Steven for reminding it of its duty.

Financial Report.

Dr. PYE-SMITH moved that the following report of the Finance Committee be received and entered on the minutes :—

The Finance Committee have to report that the income of the General and Branch Councils for the year ending Dec. 31st, 1904, was £9062 0s. 6d. The expenditure for the same period was £9280 0s. 7d. Consequently there is a deficit on the year's working of £218 0s. 1d. Although there is a deficit the committee cannot but regard with satisfaction the fact that it compares so favourably with that of last year (£2165 1s. 8d.); indeed, with the exception of the year 1898, in which the Pharmacopœia was published and the receipts thereby abnormally increased, this is the first time since 1895 that the deficit has not exceeded £1000.

Taking matters in detail it will be seen that the receipts from fees show a decrease of £115 11s., the English branch having received £93 5s. less, the Scottish branch £195 18s. 6d. less, and the Irish branch £173 12s. 6d. more. The sum received is practically the same as that received in 1902 (£6613 15s. 6d.) but the average for the past three years is about £400 a year less than for the previous three, notwithstanding the raising of some of the fees, the result of which is shown below.

It will be remembered that in July, 1903, the fees for the registration of additional qualifications and for restoration to the Register were raised from 5s. to £1, and it is now possible to compare a full year at the new rate with the last year at the old rate as follows :—

	1902 No. of fees.	1904 No. of fees.	1902 Cash received.	1904 Cash received.	Increase.
			£ s.	£ s.	£ s.
English branch	569	404	142 5	404 0	261 15
Scottish branch	158	150	39 10	150 0	110 10
Irish branch	73	59	18 5	59 0	40 15
Total	800	613	£200 0	£613 0	£413 0

The English branch shows a decrease of 46 in the number of original registration fees received, the Scottish branch a decrease of 47, while the Irish branch shows an increase of 30, making a net decrease of 63. The average number of original registrations during the past seven years has been 154 less than for the previous seven and 92 less than for the seven years before that.

Turning to expenditure it will be seen that there is a reduction of £2047 17s. 10d. and the following details seem to call for comment :—(*a*) The decrease of £1021 4s. in General Council fees is due to the fact that there were two sessions instead of three and that they lasted altogether for 13 days instead of 17. The reduced scale of travelling allowances tended to economy; but to balance this additional expenditure was entailed by the addition of two new members to the Council. (*b*) The increase of £39 3s. 3d. in various committee fees was caused by the meeting of the Preliminary Scientific Committee early in May. (*c*) The reduction of £75 4s. 9d. in the cost of printing the Medical and Students Registers is due to the smaller number of copies ordered in accordance with the resolutions adopted in July, 1903. (*d*) The cost of printing the programmes, &c., was reduced by £124 2s. 6d. and was the natural result of the shortened sessions. (*e*) Law expenses show a reduction of £78 1s. 7d. The Council was especially fortunate in having a small number of penal cases to deal with, none of which took up much time; unfortunately, three of the cases which came up were only postponed and will have to be heard this session. (*f*) The reduction of £287 5s. 2d. in the visitation of examinations is due to there being no inspection of primary examinations and also to there being only a small portion of the cycle to complete. (*g*) Miscellaneous expenses were reduced by £129 4s. 1d., partly because of the smaller cost of reporting penal cases and partly because in 1903 50 guineas were paid for the valuation of the Council's property.

With regard to the income and expenditure of the three branch Councils for the past three years, with the small exceptions of the branch Council fees in Scotland and Ireland and the receipts of the Irish branch from registration fees, there is a reduction all round in income and expenditure; but it is satisfactory to see that each branch is doing what it can to balance the diminished revenue by keeping down expenses.

It will be noted with satisfaction that the total assets of the branches are only reduced on the year's working by £68 1s., a result which compares very favourably with the reduction of nearly £2000 shown in the previous year. It will be noticed that Consols have been valued at about 90. The reason of this is that Consols were sold by the English branch in 1903 and 1904, but the auditors omitted to write off the difference between the price at which they were sold (91) and the price at which they had been valued (90), and consequently the statement in last year's accounts that £9065 11s. 10d. Consols at 90 were worth £8149 9s. 1d. is not strictly accurate, though the difference is but small. The committee are of opinion that these differences should be written off as they arise. The Pharmacopœia accounts show that the funds from which the expense of publishing the next Pharmacopœia will be met are steadily, if slowly, increasing at the rate of about £2.0 a year.

Irish Branch.—Assuming that the expenses for this year, including the contribution to the General Council, are about the same as those of last, say £1000, and the receipts do not fall below £850, there will be a deficit of about £150 on the year's working. Against this there is £111 in hand, and the committee recommend a grant of £100, should it be required, to make up the deficiency.

Dental Fund.—The English branch having repaid the loan to it of £1200, this sum has been invested in Consols, of which £1367 10s. 5d. were bought at 87½, bringing the total invested funds up to £2803. Since the close of the year a further sum of £260 3s. 10d. Consols has been bought at 90½. The income for the year exceeded the expenditure by £435 19s. 1d.

To forecast the expenditure for a year is most difficult, because the number and length of the sessions, which cannot be foretold, are by far the most important factors in the calculation. It should be remembered that the assembly and dispersal of the Council, exclusive

of all fees for attendance, costs £350, and that hotel expenses and attendance fees come to £200 a day, or 16s. 8d. a minute for the four hours the daily session lasts. As far as can be seen, however, the present session promises to be a short one, and the committee hope for an economy here; the item of visitation of examinations should practically disappear and the proposed grant to the Irish Branch is £50 less than that of last year. On the other hand, there will be about £100 to pay for painting and cleaning and about £200 towards the cost of the office improvements; besides this the architects have sent in a bill for £100 for work done during the past two years, and it will be necessary to find about £100 to pay for the dilapidations of No. 16, Hanover-square. With regard to receipts the committee do not look for much alteration except that for the last half-year the rent of No. 16, Hanover-square will be paid at the rate of £800 a year under the new lease instead of at the rate of £250 under the old. Bearing all these circumstances in mind the committee are quite hopeful that the deficit this year will not exceed that of last and even that it may be turned into a small surplus.

Dr. PYE-SMITH congratulated the Council on having got near an equality between expenditure and income.

Mr. TOMES seconded the motion, which was agreed to.

On the motion of Dr. PYE SMITH, seconded by Mr. TOMES, it was resolved that a grant of £100, should it be required, be made towards the expenses of the Irish Branch Council during the current year.

Dr. BRUCE moved:—

That the thanks of the Council be accorded to the treasurers for their services in the preparation of the report and in the management of the Council's finances during the past year.

This was seconded by Sir CHRISTOPHER NIXON and agreed to.

Dr. PYE-SMITH acknowledged the assistance of the President and Mr. TOMES said that special thanks were due to the registrar and Mr. King for their assistance.

The PRESIDENT remarked that the Council was extremely well served by all its officials.

The Final Examination of the University of Oxford.

Sir PATRICK HERON WATSON moved:—

That the report of the Examination Committee on the report by the visitor, Dr. McCall Anderson, and the inspector, Mr. Thomas Bryant, on the final examination for the degree of Bachelor of Medicine and Bachelor of Surgery of the University of Oxford be received and entered on the minutes.

Mr. YOUNG seconded the motion, which was agreed to.

The following was the report of the Examination Committee on the visitation and inspection:—

The final examination of this University was inspected in December, 1904, by the visitor, Dr. McCall Anderson, and the inspector, Mr. Thomas Bryant. Both these gentlemen were present at all the oral, clinical, and practical examinations in medicine, surgery, midwifery, forensic medicine and public health, and pathology, and they read some of the answers in the written papers. As regards medicine, they state that many of the answers to the questions were of a high character, indicating good clinical knowledge. As regards the practical examination in medicine, in chemical and microscopic methods of diagnosis, the visitor and inspector give no opinion; but, judging from the detailed description given, the committee consider that this part of the examination appears to be thorough and comprehensive. At the clinical examination in medicine each candidate was required to report in writing on two cases and the visitor and inspector were favourably impressed with the candidates' work. The papers "were well written and clearly expressed, and indicated thought and knowledge." The *viva voce* clinical examination was "everything that could be desired," although "the marks given were perhaps generous."

SURGERY.

The visitor and inspector read many of the written answers in systematic surgery and formed a "high opinion of the candidates' knowledge." In clinical surgery each candidate was required to write a report on two well-selected cases and the visitor and inspector read many of these reports and were "well pleased with them." The *viva voce* in clinical surgery "as a whole was good" and "the marks awarded were just." The examination in "surgical anatomy and on the methods of operations, with questioning on the living subject and the use of surgical instruments and appliances" ..... "was admirably carried out." The *viva voce* examination in general surgery was based as a rule on pathological specimens and every candidate was given at least four well-marked examples of local surgical disease, upon which practical as well as pathological questions were based. The answers were generally satisfactory.

MIDWIFERY AND GYNÆCOLOGY.

The visitor and inspector were satisfied with those answers which they read. At the oral examination there were two examiners—one in midwifery and one in gynæcology. "Many specimens, instruments, and the dummy fœtus and pelvis" were employed in the examination. The questions were "good in both departments," and the answers "fairly good," but the standard of knowledge in this branch of medicine was not up to the standard of other branches. Thus in midwifery there were three rejected, whereas there was but one in medicine and one in surgery. The two candidates who were rejected in medicine and surgery respectively were rejected in midwifery.

PATHOLOGY.

In the written paper the questions were "practical and good," and the answers read were satisfactory, as also the marks awarded. In the written examination in practical pathology the questions and answers satisfied the visitor and inspector. The *viva voce* examination, as regards arrangements, is commended and the marks given were not too liberal. "The standard of examination in pathology was high."

FORENSIC MEDICINE AND HYGIENE.

The written paper contained three questions on forensic medicine—one being set by an examiner in medicine, one by an examiner in surgery, and one by the examiner in gynæcology. In hygiene there were three questions. A few of the candidates' books of answers were read by the visitor and inspector who were satisfied, the answers indicating sound knowledge. The practical examination in hygiene, from its nature, "could not be followed by the visitor and inspector as they could have wished, but some of the reports were read and found to be satisfactory." There is no report regarding a *viva voce* examination in forensic medicine.

The conclusion arrived at by the visitor and inspector is "that the examination was as satisfactory as any examination we have visited," and is, without doubt, "sufficient in the sense of the Medical Acts." In this opinion the Examination Committee concurs. The visitor and inspector state that in the University of Oxford "there is still no definite curriculum" in medicine.

**** At the conclusion of the surgical section of the visitor and inspector's report the following paragraph occurs:—

"It did not appear that they had in any way suffered from having been arts and science students of a university which prescribes no special medical curriculum but which offers to its former graduates an examination for B.M. and B.C. degrees of such a high standard as we believe the examination we have inspected to be."

Mr. JACKSON said he wished to ask whether in the surgery examination there was no operation on the dead body. He thought that in such an examination there should be some proof that the student was able to use the forceps and the knife as well as other instruments. Apparently there was no mention of operations on the cadaver and nothing was said with regard to diseases of the ear.

Sir CHRISTOPHER NIXON said that he was disappointed that no reference was made in this report to the former report presented to the Council on the inspection and visitation by the late Sir George Duffey and himself. The present report showed that Sir George Duffey and himself had the most ample justification for the comments they then made on the examinations of the University of Oxford. First of all they found fault with the way in which the clinical examination was conducted simultaneously in medicine and surgery so that there was not an opportunity for the visitor and inspector to make a report on both examinations. They further reported that the time was insufficient. The present report showed that there had been a complete alteration, the examinations being held upon different days and double the amount of time being given to the clinical examinations. The system of marking had been objected to and now there was a very complete and elaborate system. He also referred to previous comments on the lack of special examination in clinical microscopy and the deficiencies of the examination in surgical anatomy.

Dr. MCCALL ANDERSON said the visitor and inspector were only asked to give an opinion as to the sufficiency of the examination and it must be very gratifying to Sir Christopher Nixon to find that all the criticisms had been amply met by the University. With regard to operations on the dead body the difficulty, of course, was with regard to subjects and the way this difficulty was met, as stated in the report, was the best substitute for actual operations on the cadaver. He pointed out that microscopic examination was made by every student and as to the absence of a report regarding a *viva voce* examination in forensic medicine he said that the report of the visitor and inspector showed that the examination in forensic medicine and hygiene was thoroughly practical. Though there was no separate *viva voce* examination the candidates were liable to be so examined. He expressed his recognition of the most courteous consideration which he and Mr. Bryant had received from the University authorities and concluded by referring to the examination as far above the requirements of the Medical Acts.

Sir THOMAS MYLES said that the Irish bodies continued to attach the very highest importance to the actual operations on the cadaver. He felt that they would be put in a position of inequality if a great institution like the University of Oxford was permitted to grant a degree in surgery which did not include an examination in operative surgery.

Dr. MCCALL ANDERSON said he agreed that there ought to be an examination in operative surgery but they could not make bricks without straw.

Sir WILLIAM THOMSON said that he thought it would only have been courteous to make some reference to the previous report. It would tend to point to the value of inspection and its results. He thought it unfortunate that great institutions like the University of Oxford should be unable in carrying out its examinations to meet this so-called difficulty in regard to operative surgery. He thought that if a little effort were made or a little regard had to the views sometimes expressed in the General Medical Council the matter

would never again need to be referred to by any visitor or inspector. This was a matter in which he entirely agreed with Sir Thomas Myles. It was quite absurd to him to hear of tests being made as to proficiency in operative surgery which simply consisted in painting with a line of chalk on the living body or describing the outline of the operation. He held that the Council should insist on these substitutions for examination being put an end to.

Dr. BENNETT expressed surprise that ophthalmic examination was omitted from the examinations in practical surgery and found fault with the use of blunt instruments on the living body.

Mr. MORRIS, referring to the practice of the Royal College of Surgeons in London, said that operations on the cadaver took place in the Fellowship examinations, but from their experience the examiners had one and all formed the opinion that very little value attached to that form of examining candidates for the Membership.

Sir VICTOR HORSLEY said he understood that Mr. Morris was speaking for the Council and not for the College as a whole. If he submitted this question to the Royal College of Surgeons he would find that the Fellows and Members did not agree with him. Most of them thought that the absence of operations in the examinations for operative surgery was a great blot on the joint examination.

Sir JOHN W. MOORE expressed the opinion that when a visitation had resulted as it had done in the case of Sir George Duffey and Sir Christopher Nixon some recognition of it ought to be made in the present report.

Dr. NORMAN MOORE thought it would form a very bad precedent if the Council were to congratulate itself on the result of its efforts. It should rest in dignified satisfaction.

Dr. MCVAIL said there was not the slightest reflection on the truth of the report of the former visitor and inspector in the report now before them and it was not always advisable to say how a change had come about. There could be no doubt that the examination was in every way satisfactory. As to the lack of a formal examination in ophthalmology he noticed that the eye was mentioned in the examination papers. In medicine the ophthalmoscopic examination included the following: cases—normal eye, opaque nerve fibres and high myopia, persistent hyaloid, keratitis.

The PRESIDENT said that in a number of reports before the Council criticisms were made on particular parts of particular examinations. It was not to be assumed that the Council ignored those criticisms. They would come up for consideration when the final report of the Examination Committee on the whole cycle was brought up. They could not deal fairly with one examination at a time. They must deal with them all and he would add that this examination at Oxford was not the first regarding which criticism had been made in connexion with operative surgery.

Mr. THOMSON said it must be a matter for congratulation on the part of the graduates of the University of Oxford that now they were reinstated in the good graces of this worthy Council. He did not assent to the view that the standard of the Oxford examination had been raised in the way in which certain members suggested. The standard had always been a high one. Their candidates had to pass the qualifying subjects in medicine, midwifery, and surgery at one and the same examination. They were not permitted to take it piecemeal. He admitted that the character of the examination had been altered but not the standard. It had been altered so far as the method and routine of the examination were affected. It was easy to come down to Oxford and say this or that was not so good as it ought to be but they had to consider the difficulties of the situation. All their examiners in the final subjects might be regarded as extern examiners. They were not resident with the exception of their Regius professor. The students suffered no inconvenience by the arrangement of the examinations. It was a serious matter to ask men to come from all parts of the country to waste three or four days when they might overlap the subjects and save time. Such overlapping was not a justification for suggesting that an examination was not sufficient. Members of the Council would remember certain instances being brought forward as instances of the leniency of this examination. One of the men who in the previous report was regarded as a weakling was one who by research and the practice of his profession had attracted not only the attention of the profession but that of the public as well. He wished that all the insufficients were as capable. He had nothing to do with the last report but certain observations had been made on the present occasion which rather led one to assume that serious changes had been effected in the character of this examination. It was pointed out that a system of marks was in operation, but this was a mere suggestion put down so that the examiners might have something to go by. The University had no intention of requiring its examiners to conform to a hard-and-fast system. The examination had been made a little more methodical but the general standard had not been altered. It seemed a source of satisfaction to Irish members to tell them many of the virtues of their examinations in operative surgery. He would not venture to express any opinion in this matter. He must leave it to the surgeons in this country but he might say that there seemed to be no unanimity on the subject. If the Council liked to make recommendations it must also provide the facilities by which those recommendations were to be given effect to. He would point out that Oxford also in its senior examination for the Mastership of Surgery examined every candidate on the cadaver. With regard to the lack of special examination in ophthalmology and so on after what Dr. McVail had pointed out and considering that the examination was taken at one time, he did not think that could be called a serious defect in the examination. The candidates were liable to be asked questions on those subjects.

The motion was then agreed to and the report of the Examination Committee was approved.

The Final Examination of the University of London.

Sir PATRICK HERON WATSON submitted the report of the Examination Committee on the reports by the inspector, Mr. Thomas Bryant, and the visitor, Sir John Batty Tuke, on the final examination for the degrees of Bachelor of Medicine and Bachelor of Surgery of the University of London. He moved that it be received and entered on the minutes.

Mr. YOUNG seconded the motion, which was agreed to.

The report was in the following terms:—

The inspection and visitation of the final examination of the University of London, held in October and November, 1904, is reported on separately by the inspector, Mr. Thomas Bryant, and the visitor, Sir John Batty Tuke. The report by the inspector extends from page 6 to page 15; that by the visitor is comprised in one paragraph on page 15.

The inspector was present during the examinations in oral medicine, clinical medicine, oral surgery, clinical surgery, surgical pathology, surgical anatomy and appliances, general pathology, forensic medicine, hygiene, and midwifery and gynæcology. He also read some of the candidates' answers in the written examinations in all the subjects. The visitor was present along with the inspector on two days of the clinical surgical examinations.

The inspector reports that the examination was "sufficient." The visitor reports that it was "sufficient" and of "high quality." The inspector commends the written questions in medicine, surgery, midwifery and gynæcology, pathology, forensic medicine, and hygiene; and as regards most of the candidates' papers he was well satisfied and he nowhere dissents from the marks that were awarded. He states that the oral examination in medicine was "very thorough"; in surgical pathology it was "excellent" and "of a high order;" in surgical anatomy and appliances "good"; in pathology "excellent and searching"; in forensic medicine and hygiene "a very searching one"; and in midwifery and gynæcology "a very full and practical one." Regarding clinical surgery he says the examination was high in standard. In clinical medicine he attended two examinations—one in Guy's Hospital and one in St. George's Hospital. The first of these "was in all respects satisfactory, much stress being laid upon methods of investigation." The second of these was less satisfactory owing to the examiner being absent, another physician at short notice taking his place; the cases were few and scattered and during part of the time friends of the patients were present in the ward.

At the oral examinations in medicine, clinical surgery, surgical pathology, surgical anatomy and appliances, each candidate was examined by one examiner only. In pathology each of the two examiners examined every candidate at separate tables and conferred as to the marks to be awarded. This was also the arrangement in forensic medicine and hygiene and in midwifery and gynæcology. Concerning this method of examination the inspector remarks as follows:

"The only important criticism that has to be made has reference to the following recommendation of the General Medical Council: 'A candidate should not be orally examined except in the presence of two examiners.' In the whole course of this examination the recommendation, as taken in its ordinary sense, was ignored; for the *viva voce* examination was invariably conducted by a single examiner, who himself fixed the marks awarded to the candidate. Where two examiners divided the time allowed for the examination between them the final mark was given after a conference between the two; but in all other instances the results of the examination were decided upon by one examiner on his sole responsibility. In another university which has been inspected an interpretation is given to this recommendation which differs widely from that usually accepted. In view of these facts it appears to the inspector that the Council should consider in what sense the recommendation is to be interpreted, for it is quite clear that where the number of candidates is large the difficulty of carrying it out, at least in the sense in which it is understood the Council intended, would be great and the expense heavy. Where all the examiners are of a high order the presence or absence of a second examiner or assessor may not always be of much importance. But it is easy to imagine conditions in which the absence

of some such safeguard as that contemplated in the recommendation of the Council might be serious. During the six inspections of Universities that the present inspector has made this year, on two occasions candidates in certain subjects would not have received passing marks at the oral examination if the recommendation of the Council had not been observed."

The Examination Committee desire to draw the attention of the Council to these important observations of the inspector. In conclusion the Examination Committee have great pleasure in reporting to the Council that, notwithstanding an important difference in detail between the recommendation of the Council and the method adopted by the University of London, the final examination of the University in medicine, surgery, and midwifery is "sufficient," and much more than sufficient within the meaning of the Medical Acts.

Sir PATRICK HERON WATSON moved that the report be approved.

Mr. YOUNG seconded the motion.

The PRESIDENT said the motion implied that one point was reserved for the consideration of the Council and that it would come up again in connexion with the whole system of examinations, in some of which a difference of interpretation had been noted.

The motion was agreed to and the report was approved.

Final Report on Cycle of Inspection.

Dr. MCVAIL moved to remit to the Examination Committee to prepare and present to the Council at its May session next year a general report on the whole cycle of visitations and inspections of the final examinations.

Sir JOHN W. MOORE seconded the motion.

Dr. PYE-SMITH said that unless they had some use for this general report they ought to let the matter rest with the good that had been done. They had all the reports on the minutes.

Sir VICTOR HORSLEY said that the Council had a duty to perform—namely the co-relation under the Act of 1886 of medical education throughout the country. Until they had digested all those reports and agreed what should be the status of medical education they had not done their duty under the Medical Acts.

Sir JOHN W. MOORE said that important matters such as the practice of operative surgery had been kept over till they considered the general report.

Dr. MACKAY said that it was the duty of the Council to co-relate the results and put them together before they started on a new cycle of inspections.

The PRESIDENT said that he thought the Council was bound to have a general report because of some of the matters being left over for discussion.

The motion was carried by a large majority.

The Navy, Army, and Indian Medical Services.

On the motion of Sir PATRICK HERON WATSON, seconded by Dr. LITTLE, the following report of the Examination Committee on the statistics relating to the examinations of admission to the Navy, Army, and Indian Medical Services was received and entered on the minutes.

The Examination Committee, with the advantage of Mr. Brown's aid, have considered the question regarding the percentage of rejections at the Navy, Army, and Indian Medical Service examinations of candidates coming from the various universities and corporations.

Such changes have lately been made in the conduct of the service examination that the committee think no conclusion of practical utility can at present be drawn from the statistics.

They would, therefore, at present recommend the Council to address a circular letter to the various licensing bodies drawing attention to the percentage of rejections and to authorise this committee in future regularly to consider the returns sent to the Council and to offer to the Council such suggestions as occur to them.

On the motion of Sir PATRICK HERON WATSON, seconded by Mr. BROWN, the recommendation of the committee was adopted.

Report of the Pharmacopœia Committee.

Dr. NORMAN MOORE, on behalf of the President, in moving that the report of the Pharmacopœia Committee be received and entered on the minutes, said it contained no contentious matter and no recommendations.

The motion was seconded by Sir JOHN W. MOORE and agreed to.

The report was as follows:—

From Nov. 22nd, 1904, to May 23rd, 1905, the sales of the British Pharmacopœia (1898) were 532 copies and of the Addendum (1900) 14 copies. Thus up to May 23rd, 1905, 36,434 copies of the Pharmacopœia and 4407 copies of the Addendum (including the Government of India edition) have been sold. The stock remaining in hand of the Pharmacopœia is 567 copies and of the Addendum 987 copies. Before the next meeting of the Council the stock of the former must therefore be replenished and the committee recommend that the President be authorised to direct the printing of an impression of 3000 copies. It has already been found economical to print a large number of copies at one time.

The committee desire to record their sense of the loss they have sustained by the death of Dr. Tichborne, whose keen interest in the Pharmacopœia and whose personal labours for its improvement were greatly valued by his colleagues.

During the past year the committee have had under consideration the question of organising, in a more systematic fashion than has hitherto been adopted, the various inquiries and researches that are still necessary in connexion with the revision of the Pharmacopœia. After full discussion the committee decided that it was expedient to institute expert committees of reference in pharmacy, chemistry, botany, and other branches as need arose, to which questions relating to their respective departments might be referred for investigation and report. As regards the committee of reference in pharmacy, whose assistance was required at once, it was agreed, following to a certain extent the existing precedents, that the Pharmaceutical Society of Great Britain and the Pharmaceutical Society of Ireland should be invited, through their Councils acting jointly, to nominate a number of expert pharmacists for appointment by the Pharmacopœia Committee. This invitation was courteously responded to by the two councils and their joint nominations, which were representative of all parts of the United Kingdom, were at once accepted by the committee. The members of the Pharmacopœia Conference, Mr. Walter Hills, Dr. Inglis Clark, and Mr. Beggs, who have materially assisted the committee for several years past, were then added as additional members. To the body of experts so appointed, and now at work, various questions bearing on the improvement of pharmacopœial pharmacy in general have been referred, and a sum not exceeding £100 a year has been set apart towards meeting its expenses. At the first meeting of the committee of reference on pharmacy, which was held on Feb. 22nd, Mr. Walter Hills was chosen as chairman and Professor Greenish was appointed secretary. At this meeting the President and Dr. Tirard, secretary of the Pharmacopœia Committee, were present and gave explanations as to the inquiries contemplated and the methods suggested.

The Pharmacopœia Committee propose, in accordance with their practice since 1898, to publish the expert reports received from time to time from the referees in order that they may derive information from any criticisms or suggestions which such publication may call forth. The committee, who by the standing orders have charge on behalf of the Council of all matters relating to the preparation and publication of the Pharmacopœia, think it desirable to state that they reserve their full freedom of action as to the adoption or modification of any proposals that may be made to them by any of their committees of reference.

The special acknowledgements of the committee and of the Council are due to the councils of the Pharmaceutical Societies of Great Britain and of Ireland for the promptitude and goodwill with which they have afforded the valuable assistance desired of them in regard to the formation of the committee in pharmacy.

A number of useful gifts of books and pamphlets have been received for the Council's reference library and the thanks of the committee have been conveyed to the donors. There remain, however, numerous *lacunæ*, regarding which Dr. Norman Moore will be glad to give information to members of the Council who may be interested.

Report of the Dental Committee.

Mr. TOMES moved that the following report from the Dental Education and Examination Committee be received and entered on the minutes. This was seconded by Mr. BROWN and agreed to. The committee reported:—

A communication has been received from the University of Dublin (Trinity College) notifying the General Medical Council of the establishment of a degree in dental science, as well as of a Licentiateship in Dental Science, and a similar communication has been received from the Victoria University of Manchester. In both cases it is asked that steps should be taken to render these degrees and diplomas registrable upon the Dentists Register. It will be noticed that these universities have not followed the precedent set by the University of Birmingham, which grants its degree only to persons already qualified and upon the Register, but that they both propose to grant primary qualifications admitting to the Register, as well as a higher "degree," which latter may apparently be taken in the first instance.

UNIVERSITY OF DUBLIN.

LICENCE IN DENTAL SCIENCE.

It is not proposed to throw open this examination to students who have wholly or in part studied elsewhere, except in the case of qualified persons or others who may desire recognition of courses taken previous to the establishment of the degree or licence. The public entrance examination in Trinity College must be passed and a curriculum extending over four years is prescribed, which is to be taken out at the medical school of the University and at the Dental Hospital, with the exception of dental mechanics, which may be learnt either at the Dental Hospital or from a registered dentist. In the first year the student attends lectures on anatomy, chemistry, and physics, and dissects. During the second he attends clinical instruction at a general hospital, lectures on physiology, surgery, and dissects. He also attends lectures on histology and dental microscopy and should pass his previous dental examination at the end of his second year. This examination embraces anatomy, physiology and histology, physics, chemistry, metallurgy, and materia medica. Having passed the previous dental examination he should join the Dental Hospital and attend the classes and lectures given there, also attending lectures on medicine at the medical school.

In the fourth year he should attend the Dental Hospital.

The final examination embraces medicine, surgery, dental anatomy, dental surgery and pathology, dental mechanics, orthodontia.

Whilst the amount of study required of the student shows a general correspondence with that prescribed by other bodies it is somewhat differently distributed in that the attendance at a general hospital and the taking out of lectures on general subjects (with the exception of lectures on medicine) precede attendance at the special hospital and at lectures on the special subjects. This is, of course, the logical sequence—namely, that the student should receive a general grounding before proceeding to specialise; and it will be interesting to observe how it works in practice. The only fear is lest the student at this early period may not be in a position to grasp the opportunities offered

to him, for the necessities of the case bring it about that he must attend clinical instruction at a period when the ordinary medical student is not doing so; and, further, he is not examined in medicine and surgery till two years or thereabouts after his attendance on these subjects has ceased. There are only two examinations, physics and chemistry being included in the first, which results in its embracing a very considerable range of subjects. The student is, however, allowed to pass them in groups.

DEGREE IN DENTAL SCIENCE.

This has the same curriculum as that for the licence, with the addition of lectures on pathology, practical pathology, and bacteriology, which should be taken out in the fourth or fifth year. All candidates must have passed for the B.A. degree and must have been students of the medical or dental schools for five years. The previous dental examination is the same but the final examination embraces the additional subjects of pathology and bacteriology. The possession of the degree (M. Dent. Sc. Univ. Dub.) may therefore be taken to imply a higher general culture.

VICTORIA UNIVERSITY OF MANCHESTER.

DIPLOMA IN DENTISTRY (L.D.S. MANC.).

The preliminary examination is to be such as is required by the General Medical Council for registration as a dental student.

A curriculum of four years' duration subsequent to registration is required and studies are divided into four courses with examinations at the end of each.

The first course embraces chemistry and physics which may have been studied prior to registration and at any institution recognised for the purpose by the University.

The second course embraces metallurgy and dental mechanics; the latter may be studied at an approved dental hospital for two years subsequently to the date of registration, or by apprenticeship to a registered dentist and the first examination must have been passed.

The third course and examination embraces anatomy, physiology, and dental anatomy and physiology. These may be any courses recognised by the University.

The fourth course and examination comprises surgery, operative dentistry, and dental surgery, and prosthetics. Clinical instruction at a general hospital must have extended over 12 months and the practice of a registered dental hospital over a period of two years.

It will be noticed that this scheme differs markedly from that of the Dublin University. No part of the instruction is required to be taken out at the Victoria University, so that the examination for the diploma is absolutely thrown open to candidates educated at recognised schools elsewhere.

There are four examinations in the place of two; and though it is not expressly so prescribed, the natural result of the arrangement will be that the attendance at a general hospital and upon the general subjects taught there will be taken in the fourth year.

DEGREE OF BACHELOR OF DENTAL SURGERY.

A period of five years of study is required subsequent to registration. The same matriculation examination as that required by the Faculty of Medicine must be passed.

The first course and examination differs from that required for the diploma, in that zoology is added, and the period of instruction is 12 months instead of six, and must be taken in the University.

The second course and examination differs little from that required for the diploma but must be partly taken in the University, and the same applies to the third course and examination, except that all must be taken at the University.

The fourth course can be taken out at other recognised schools or at the University, and embraces surgery, pathology, including bacteriology, clinical medicine and surgery, dental surgery and pathology, three years of dental hospital practice, and an additional year of work in the mechanical laboratory of a recognised dental hospital, &c. Persons qualified before October, 1905, who have pursued their studies at Owens College or at the University may be allowed to obtain the degree of Bachelor of Dental Surgery after passing the third and the final examinations without any additional study, a concession not beyond question in respect of a "higher" degree. The degree of Master of Dental Surgery may be obtained either on presentation of a thesis or by examination on certain dental subjects or groups of subjects as yet undetermined.

The degrees, therefore, are confined to those who have, to a considerable extent at all events, studied in the University.

Special courses of lectures on the surgery of the mouth, on dental bacteriology, and on dental materia medica are not represented in the curriculum for the licence, though such courses are required, for example, by the Royal College of Surgeons of England for their licence.

It appears to your committee desirable that degrees "in respect of a higher degree of knowledge" should be granted to those persons only who are already possessed of a registrable qualification, a course which appears to be indicated by the words used in Section 11 (6) of the Dentists Act.

DENTAL BOARD OF VICTORIA, AUSTRALIA.

A letter has been received from the Dental Board of Victoria expressing their gratification at the recognition of their diploma and their cordial agreement with the conditions attached thereto. They ask for information as to the returns made to the General Medical Council by the licensing bodies of the United Kingdom and fully recognise the necessity of some test of the sufficiency of their examinations which, owing to distance, cannot be inspected like those of the licensing bodies at home. They offer, should the Council desire it, to retain for 12 months the examination papers, returns, &c., and to forward them to the Registrar. Powers of visitation of their examinations have already been granted to the University of Melbourne. They point out that a rigid application of the statistics as to the proportion of passes and rejections found to obtain at home might not be perfectly fair to a school as yet small and at the moment possessed of an unusually competent body of students.

RECOMMENDATIONS.

(i.) That the registrar be instructed to accept for the purposes of registration upon the Dentists Register the licence in dental science of the University of Dublin and the licence in dental surgery of the Victoria University of Manchester (Dentists Act, Sec. 6 (a)).

(ii.) That the degrees in dental science and in dental surgery granted by the same universities be recognised for entry upon the Dentists Register as "additional diplomas, memberships, licences ..... granted in respect of a higher degree of knowledge" (Dentists Act, Sec. 11 (6)).

(iii.) That inspection and visitation in the ordinary sense being at present impracticable the offer of the Dental Board of Victoria (Australia) to submit candidates' papers, marks, and returns generally to the registrar be accepted.

Mr. TOMES moved the approval of the first recommendation which was seconded by Dr. BENNETT and agreed to.

Mr. TOMES moved the approval of the second recommendation which he said was necessary in accordance with the Act.

Dr. LINDSAY STEVEN seconded the motion.

Sir WILLIAM TURNER asked whether there was not likely to be some confusion in the introduction into the university system of a licence which was to be given precedent to the conferring of the degree.

In the course of further discussion,

Mr. YOUNG stated that those degrees would be subject to visitation and inspection at any time, and

Sir JOHN W. MOORE remarked that the degree at the University of Dublin was only to be given to bachelors of arts.

The recommendation was approved.

On the motion of Mr. TOMES, seconded by Dr. LINDSAY STEVEN, the third recommendation was agreed to.

Mr. BROWN moved:—

That the President be authorised to take the opinion of the legal advisers of the Council as to whether degrees granted in dental science and dental surgery by universities in the United Kingdom are registrable as primary qualifications to practise dentistry.

He said it was obvious that some such decision was called for.

Mr. JACKSON seconded the motion, which, after some discussion, was adopted.

Canvassing and Advertising.

On the motion of Dr. WINDLE, seconded by Sir VICTOR HORSLEY, the following communication from the British Medical Association was received and entered on the minutes:—

Offices of the British Medical Association,
429, Strand, W.C., May 22nd, 1905.

SIR,—In pursuance of a refolution of the Council of the British Medical Association, confirming a recommendation of the Ethical Committee of the Association, we ask the General Medical Council to consider the desirability of issuing a general warning notice to medical practitioners against the practices of canvassing and advertising for the purpose of procuring patients.

Cases are constantly brought under the notice of the British Medical Association of such canvassing and advertising by medical practitioners, or by lay bodies by whom medical practitioners are employed, by means of door-to-door visitation, distribution of cards and handbills, or newspaper notices. These cases have been carefully investigated by the Ethical Committee of the Association, and the medical practitioners concerned have been asked to give such explanation as they think proper for the assistance of the committee in considering whether the case should be reported to the General Medical Council. The reply repeatedly received has been that the medical practitioner was not aware that there was any professional objection to such canvassing or advertising.

We forward, as an example, the correspondence of the committee with a practitioner whose name, address, surgery hours, and fees were printed on cards which were distributed in the neighbourhood of his residence, and who, it will be seen, pleaded that he was not aware of any objection to such distribution. We inclose also copies of cards, handbills, and newspaper advertisements which have at times been brought to the notice of the Ethical Committee of the Association and appear to that committee to be of a gravely undesirable nature.

The Ethical Committee and Council of the British Medical Association would submit for the consideration of the General Medical Council:—

(1) That advertising, including canvassing, by medical practitioners for the purpose of procuring patients is injurious to the interests of the public as well as of the medical profession and that the disciplinary powers conferred upon the General Medical Council for the public protection under Section XXIX. of the Medical Act, 1858, would be exercised to the advantage of the community by the Council declaring its disapproval of systematic canvassing and advertising for the purpose of procuring patients by cards, handbills, newspaper notices, or other means;

(2) That although, as the Association recognises, the General Medical Council possesses no statutory authority to formulate by-laws for the regulation of the medical profession, but can only deal with each case brought before the Council on its merits, nevertheless the action of the Council in formulating from time to time declaratory resolutions (such as those adopted on Nov. 27th, 1897, and June 6th, 1899, relating respectively to the employment of unqualified assistants and association with medical aid societies which canvass and advertise) has been of great benefit to the profession, and the present case appears to the Council of the British Medical Association to be one in which those precedents might with advantage be followed;

(3) That the issue of such a notice would not only be helpful to those medical practitioners who, under present conditions, are actually ignorant of the past decisions of the General Medical Council in cases of canvassing and advertising, and thus inadvertently offend, but

would deprive those who deliberately offend of an excuse which they at present put forward.

We are, Sir, your obedient servants,

ANDREW CLARK,
Chairman of Council of the British Medical Association.
ROBERT SAUNDBY,
Chairman of the Ethical Committee of the Association.
J. SMITH WHITAKER,
Medical Secretary.

D. MACALISTER, Esq., M.A., M.D., F.R.C.P.,
President of the General Council of Medical Education and Registration.

Dr. WINDLE moved—

"That the communication from the British Medical Association respecting the desirability of issuing a general warning notice to medical practitioners against the practices of canvassing and advertising for the purpose of procuring patients be remitted to the Executive Committee and that they be requested to confer with the legal advisers of the Council on the subject and, if considered advisable, to draft a form of notice of warning to medical practitioners for consideration at the next meeting of Council.

He thought this would be the best manner of dealing with a matter which should be left not to the General Medical Council but to the Executive Committee and the legal advisers.

Sir VICTOR HORSLEY, in seconding the motion, said that now that they had had several concrete cases of advertising brought before them it was time the Council should consider whether it ought not in its wisdom to issue a decree.

Dr. LINDSAY STEVEN supported the motion. He was glad the medical authority of the British Medical Association had been brought to bear on this question. About a year ago he proposed a motion on similar lines but withdrew it. They had now additional facts before them and they had this important communication from the British Medical Association, so that there should be no difficulty now in remitting the matter to the Executive Committee.

The PRESIDENT said he agreed that they had had sufficient experience of the vagaries of the gentlemen likely to be touched by this motion and they ought to proceed to formulate something.

The motion was agreed to.

Remuneration of Members of Council.

Mr. BROWN moved that from and after July 1st next the remuneration for attending meetings of the Council and Executive Committee should be three guineas per diem instead of five guineas as at present and that the standing orders be amended accordingly.

Mr. JACKSON seconded the motion in order that the question should be decided upon.

The motion was rejected, only the mover and seconder voting for it.

Appointment of Assistant Examiner.

On the motion of Sir HUGH BEEVOR, seconded by Mr. MORRIS, it was resolved that Mr. W. McAdam Eccles, F.R.C.S., be appointed as assistant examiner in surgery to the Apothecaries' Society of London for a period of four years, vice Mr. W. Bruce Clarke who retires by rotation.

The Council adjourned.

SATURDAY, MAY 27TH.

The Council resumed, Dr. MACALISTER, the President, being in the chair.

Direct Representation on the General Medical Council.

Mr. BROWN moved that representations be made to the Privy Council that the time has arrived when the number of Direct Representatives for England, Scotland, and Ireland should be increased to the maximum number permitted by the Medical Act, 1886. He contended that the medical profession of the United Kingdom deserved to be more adequately represented than they were at the present time. The powers he asked the Council to exercise were contained in Section 10 of the Act which provided that the General Medical Council might at any time represent to the Privy Council that it was expedient to confer on the medical practitioners resident in any part of the United Kingdom the power of returning an additional member to the General Medical Council. That meant that they had the power of representing that England and Wales, Scotland, and Ireland should each return an additional member. At present there were only five. When the Act was passed the membership of the Council numbered 30, but they had recently had additions and it was now 33. Accordingly the direct representation had diminished in proportion to the whole representation since 1886. Besides, new universities were being started and he had no doubt that they would expect to be represented on the Council. That was one reason why the direct representation should be increased. Another reason was the considerable increase in the number of registered practitioners. In the year 1886 there were 17,000 medical men registered in England. There were now more than 21,500. In 1886 there were 5000 registered in Scotland. At present there were 11,000. In Ireland the number had increased from 4317 to 5267. Looking at the Medical Directory they found that in England and Wales there were practising in 1886 17,395, compared with 24,351 at the end of last year, showing an increase of 7000. The time had arrived, he thought, when they could fairly claim additional representation.

Mr. JACKSON, in seconding the motion, said that in many instances new universities that might obtain representation on the Council must represent only a small number of graduates. In these circumstances they had a right to ask for additional representation for the thousands of practitioners to whom Mr. Brown had referred. He submitted that there were certain points which the universities looked at from a different point of view from that of the practising medical man.

Sir JOHN W. MOORE said that so far as Ireland was concerned it had consistently returned as its Direct Representative a gentleman who was most intimately connected with two of the licensing bodies in that country and a member of the governing bodies of both. He thought that was an unanswerable argument against the views put forward by the proposer and seconder. The licentiates of the Irish College of Physicians had only to make representations to the College and they would be treated with the utmost courtesy and their views presented to this Council.

Sir VICTOR HORSLEY said that he would recommend Sir John Moore to take a plebiscite on the subject. The method to which Sir John Moore referred would not satisfy the licentiates of the Colleges in England. The question was not one of accommodation in their present room; it was a question of logic and justice. Mr. Brown and Mr. Jackson had furnished them with the logical argument. As regarded the claim of justice he would point out to the representatives of the new universities that they sat on the Council on a claim of justice. He therefore asked their vote on behalf of the motion.

Dr. LITTLE said that the Council was if anything too large and the work would be better done if it were smaller. He did not agree that the interests of the practitioners throughout the country were not to be safeguarded by him because he was not a direct representative. He was sure that those members who were chosen by the various universities and corporations had the interests of their graduates and licentiates at heart just as much as if they had been directly represented. He could not support the motion.

Dr. BRUCE remarked that since the Direct Representatives were introduced more had been done in the way of calling attention to the practising of unqualified men than was done before. He supported the motion.

Sir CHRISTOPHER NIXON said he took it that the members who represented the profession directly were quite competent to bring before the Council any interest that concerned the profession at large. He did not see how they would gain anything by multiplying the representation of the profession which was so efficient at the present time. They were all concerned in the interests of the general practitioner.

Dr. MCVAIL remarked that since the Act of 1886 was passed the profession had nearly doubled its ranks. The education and the status of the profession had enormously improved and these facts alone warranted increased representation. If Parliament were now considering the constitution of the Council anew he could not doubt that it would consider the direct representation given in 1886 to be insufficient now. They could alter their accommodation if they introduced more members and there were various ways of improving the Council's finances. He himself was prepared to abolish fees to members altogether.

Sir WILLIAM THOMSON said that a justification for this increase in the representation would be the increased number of the general body of the profession. Mr. Brown had put the matter very fairly and temperately and the time had come when a claim might be made. So far all the increase in representation had been one-sided.

Dr. NORMAN MOORE said that he, as a representative of

a corporation, did not come there to represent the private interests of the Royal College of Physicians, but that body had chosen him as a proper person to be concerned in the business of the Council and he thought that was the general feeling of other representatives of universities and corporations. He had never heard an appeal to the particular interests of anybody from any member of the Council. As to the improved character of the profession the Council had a share in the general education of the profession but it was only one of the great many forces which had produced the improved condition. The spread of universities, the greater intensity of work in the universities, the general improvement of education, and the greater consideration of education throughout the country had been influences. There was a strong reason against having an addition to the direct representation. The Council was established for the purpose of considering a variety of questions mainly surrounding education, training, and conduct. In order to select people who should discuss those matters a method of election which enabled the electing body to know everything about the persons it was to choose was most important. The object was to have skilled men who would be capable of dealing with complicated problems and who would be absolutely trusted to do so. They had been most fortunate in the direct representatives with whom they had had the honour of sitting, but he thought it was a surprising thing that they should have been so fortunate when they considered how little the constituents could know about them. The universities had another important advantage and that was that their choice was not confined to the opinion of the Medical Faculty. That was an influence which was of great advantage and importance to the Council. He would vote against the proposition.

Dr. LINDSAY STEVEN said that while he must admit the great force of the arguments which had been brought forward by Mr. Brown in support of his view of the case, at the same time he felt upon this occasion, at least, that he could not vote for the matter one way or the other. He quite agreed that the Medical Acts gave the Council the right of recommending in such a matter, and certainly the great increase in the numbers of the profession that had taken place in the last 10 or 15 years would seem to justify the consideration of the matter, but he did not believe that there was any great demand on the part of the general practitioner for additional representation at the present moment. He should have thought that if such a demand existed a much larger percentage would have taken the trouble to vote in recent elections to the Council.

Dr. CATON said it seemed to be implied that those members of the Council who were chosen by universities or corporations came chiefly and essentially to protect the interests of those universities and corporations. He should like for himself and his colleagues to say that they came chiefly and essentially to support the honour and dignity of the profession and that they were all representatives of the profession. They tried to do the same work as the direct representatives.

Mr. BROWN said he quite agreed that the representatives of the universities and corporations came to the Council to promote the interests of the profession generally but he maintained that the present proportions did not satisfy the profession generally.

On a division the motion was defeated by 8 votes. 10 voted for the motion, 18 against, and 5 did not vote.

Rules regarding Midwifery Practice.

Sir JOHN WILLIAMS moved:—

That a committee of the Council be appointed to inquire into the operation of the rules regarding the midwifery practice required of candidates for medical qualifications.

He said that years ago the mortality from sepsis after delivery was pretty much the same as to-day. In 1876–80 it was 1·7; in 1881–85, 2·8; in 1886, 2·4; in 1891–95, 2·5; in 1896–1901, 2·0. This mortality ought to be absent and his object was to have an inquiry into the reasons for its continuance.

Dr. MCVAIL seconded the motion which was agreed to.

The committee was appointed as follows: Sir John Williams (chairman for convening purposes), Dr. McVail, Mr. Jackson, Dr. Barrs, Dr. Caton, Mr. Young, and Sir C. Nixon.

Executive Committee.

The Executive Committee was constituted as follows: Sir Hugh Beevor, Dr. Pye-Smith, Mr. Young, Mr. Tomes, Sir John Batty Tuke, Sir P. Heron Watson, Sir C. Nixon, and Sir William Thomson.

Penal Cases Committee.

The following were elected members of the Penal Cases Committee: Sir Hugh Beevor, Dr. Windle, Mr. Tomes, Sir Victor Horsley, Sir P. Heron Watson, Dr. Finlay, Sir C. Nixon, and Sir William Thomson.

Students' Registration Committee.

On the motion of Sir HUGH BEEVOR the report of the Students' Registration Committee on applications for exceptional registration as students or for antedating the commencement of professional study was approved and placed on the minutes.

Procedure in Penal Cases.

Sir WILLIAM THOMSON proposed:—

That the Executive Committee be requested to consider, in consultation with the legal assessors of the Council, the question of amending the notice of inquiry in penal cases so as to enable the Council in cases where more than one charge is brought forward to come to a decision on each charge separately.

Dr. NORMAN MOORE seconded the motion. He said this procedure would enable the Council to arrive at a decision with greater precision in some of the cases that came before it.

The motion was agreed to.

Fee suggested for Students' Registration.

Dr. MACKAY moved:—

That it be remitted to the Finance and Executive Committees to take into consideration the suggestion made by the President in his address at the opening of the present session to the effect that a small fee might with advantage be charged for students' registration.

He said that the subject was important and the quarter from which the suggestion came seemed to make it almost imperative that it should not be lost sight of.

Dr. LINDSAY STEVEN seconded the motion.

Dr. NORMAN MOORE said he hoped the motion would not be pressed at this meeting of the Council. He could not help feeling a doubt as to the expediency of making such a charge. Students' registration was entirely a private matter of the Council. The Council thought the registration was a useful thing but it was entirely unnecessary for any student in any part of the United Kingdom to place his name on the Register. To charge a fee, therefore, would be making use of a false impression that such registration was necessary; it would not be perfectly honest.

Sir CHRISTOPHER NIXON said that all the motion did was to refer the matter to the two committees for consideration. By passing the motion the Council did not commit itself to anything.

Sir PATRICK HERON WATSON said that such a proposal could hardly be carried out without the sanction of the Privy Council.

Mr. BROWN supported the view taken by Dr. NORMAN MOORE.

Dr. MCVAIL contended that nothing but an Act of Parliament could give the Council this power.

Dr. BRUCE said that while it was true that the Council could not insist upon registration surely if a student preferred to put his name on the Register he should be asked to pay the fee.

Sir JOHN BATTY TUKE expressed the opinion that it would be very inexpedient to charge a fee to which the Council had no right and he feared that such a thing would tend to break down the system of the registration of students which was a most useful part of the machinery of the Council.

Dr. PYE-SMITH questioned whether it would be creditable to a public body like this to make a demand which it had no power to enforce.

Sir WILLIAM TURNER said that certain bodies had taken up the attitude that they would not demand registration on the Students Register from those who appeared before them as candidates for their diplomas. But these bodies were a small minority and the great bulk of the medical authorities were in harmony with the Council on this matter and required of the candidates that they should be on the Register a certain number of years. A very large percentage of those who obtained admission to the Medical Register had been on the Students Register. This registration of students involved a charge on the funds of the General Medical Council; the Council was spending about £400 to

carry out this registration to which the great bulk of them attached the utmost importance and therefore he thought they would be justified in exacting what was described in the motion as a small fee. Of course, this did not imply that the registration was to be compulsory. They had no power to make it compulsory; he only wished they had.

Sir VICTOR HORSLEY said that what the Council voted for in 1904 was the question of placing this matter in the Act by a specific clause and the Council determined to ask the Privy Council to do this very thing. Therefore for this Council not to accept the present motion would be to stultify itself and also in a sense to stultify its belief in the registration of students, a belief it had held for years. He could not see any objection to the motion from any point of view, either from that of expediency or that of legality.

The PRESIDENT explained that Dr. Mackay in bringing forward this question had acted on his own responsibility. All he would say upon it was that he did not think that the idea was such a very bad one that it ought to be condemned unheard.

Dr. LITTLE did not think a small fee would deter anyone from registering. People, as a rule, valued most what they had to pay for.

Dr. MCVAIL said that in his reference to a vote in 1904 Sir Victor Horsley did not mention that in November the Council rescinded the whole affair.

Sir VICTOR HORSLEY: We did not rescind the whole affair in November; we only did not proceed further into the matter in consequence of a letter from the Privy Council.

The motion was carried by a large majority.

Diplomas in Public Health.

Dr. BRUCE moved and Dr. NORMAN MOORE seconded that it be recorded in the minutes that recommendations of the Public Health Committee as to the rules for diplomas in public health already adopted were additions to those rules but involved no further alterations in them.

This was agreed to.

Appointment of Committees.

The following committees were appointed:—

Examination Committee.—By the English Branch Council: Dr. Pye-Smith, Mr. Young, and Dr. Caton; by the Scottish Branch Council: Sir P. Heron Watson, Dr. Finlay, and Dr. McVail; by the Irish Branch Council: Dr. Little, Sir W. Thomson, and Sir T. Myles.

Education Committee.—By the English Branch Council: Dr. Windle, Dr. Norman Moore, and Sir G. Philipson; by the Scottish Branch Council: Dr. Mackay, Sir John Tuke, and Dr. McCall Anderson; by the Irish Branch Council: Sir W. Thomson, Dr. Bennett, and Sir C. Nixon.

Public Health Committee.—By the English Branch Council: Sir G. Philipson, Mr. Power, and Mr. Jackson; by the Scottish Branch Council: Dr. Bruce, Dr. Lindsay Steven, and Dr. McVail; by the Irish Branch Council: Dr. Bennett and Sir John W. Moore.

Pharmacopœia Committee.—The President (chairman), Dr. Norman Moore, Sir George Philipson, Sir J. Batty Tuke, Dr. McVail, Sir John Moore, Dr. Little, Dr. Caton, and Dr. Barrs.

Finance Committee.—Dr. Pye-Smith (chairman), Mr. Tomes, Sir P. Heron Watson, and Dr. Bennett.

Dental Committee.—The President (chairman), Mr. Morris, Mr. Tomes Sir P. Heron Watson, and Sir Thomas Myles.

Dental Education and Examination Committee.—Mr. Tomes (chairman), Mr. Morris, Mr. Brown, Dr. Lindsay Steven, Dr. Finlay, Dr. Bennett, and Sir Thomas Myles.

Students' Registration Committee.—Sir Hugh Beevor (chairman), Sir J. Batty Tuke, Dr. Mackay, Dr. Bennett, Sir William Thomson, and Dr. McCall Anderson.

Re-election of the General Registrar.

On the motion of Dr. WINDLE Mr. Allen was re-elected registrar.

Vote of Thanks to the President.

Dr. NORMAN MOORE moved that the best thanks of the Council be given to the President for his able services in the chair during the present session.

Sir THOMAS MYLES seconded the motion, which was carried by acclamation.

The PRESIDENT: I cannot help thanking you very sincerely not only for the way in which you have aided me to-day but for the uniform help you have given me by your sympathy and your willingness to excuse my inexperience.

This concluded the business and the Council rose.

MEDICAL DEFENCE UNION.

Mr. M. A. Messiter, the President of the Medical Defence Union, took the chair at the annual general meeting of the members of the union held at 11, Chandos-street, London, W., on May 25th. In moving the adoption of the report of the council the President congratulated the members on the success of the union and on the satisfactory report for the year 1904. Only two cases under the Medical Acts had been brought before the courts during the last year. Several other cases had been fully considered and evidence obtained, but such evidence was not felt to be sufficiently precise to warrant summonses being issued and process instituted. The "state of fog" by which the present Medical Acts were surrounded made it impossible to take any steps unless the case was clear and conclusive, and those offending against the Acts were so fully aware of their vagueness that in general they had no difficulty in obscuring the issue and of conducting their practice by means of titles which, although bogus, kept them outside the reach of the law. The matter of Mr. Coroner Troutbeck had continued to engage the attention of the council and numerous complaints had been received as to his action in retaining the services of Dr. L. Freyberger in a large percentage of inquests to the detriment of the practitioners living in the districts concerned. Certain steps were being taken which, it was hoped, would put a stop to the course adopted by Mr. Troutbeck, a course which although not "unlawful" could certainly be described as not "expedient" either in the interests of the public or of the medical profession. Communications had been made both to the Lord Chancellor and to the Prime Minister (Mr. Balfour) and also to the London County Council, but inasmuch as the matter at present was, so to speak, *sub judice* the council was unable to give more precise details. In the report furnished by the solicitor to the union Mr. W. E. Hempson stated that the year's legal work of the union had been a heavy one. The total number of cases referred to him and completed within the year was 182. These cases showed that the work of the union extended over the length and breadth of the United Kingdom. Of the 182 cases 13 affected members resident in Wales; six related to matters concerning members residing in Scotland; and five had relation to matters dealt with in Ireland. Of the remaining 158 cases 96 arose in London and the suburbs and the remaining 62 were distributed over the various provinces in England. The useful and beneficial provisions of the Public Authorities Protection Act, 1893, so far as they affected medical men placed in official positions, were brought out in an action occurring in the past year and which in point of decision had the advantage of having been adjudicated upon by the Court of Appeal. Amongst some excellent advice given to members of the union the following was worthy of notice:—When a medical man was called in to attend an employé in certain works, he generally took it as a matter for granted that his fees would be paid by the employer; he therefore accepted the case and continued to attend. When the account was rendered the employer often denied liability altogether or else expressed his willingness to pay for the first attendance only, leaving the medical man to look to the patient for the fees for the subsequent treatment. In the majority of cases no evidence was forthcoming in support of the medical man's claim for his fees against the employer and the advice was given that when called in in such circumstances a clear understanding should be arrived at, in writing if possible, as to whom the medical man was to look to for payment of his fees. The number of members on the register of the union was 6266 and the amount of the guarantee fund was £8844 17*s.* 6*d.* After the report had been unanimously adopted, Dr. F. J. Wethered, the honorary treasurer of the union, proposed that the balance sheet of accounts should be adopted. He commented on the increase in law expenses but did not regard it as unfavourable because it showed that the union spared no cost in obtaining the very best legal talent available for members who were brought face to face with litigation. The increase in the amount for printing was due to the extra expense incurred through the action of the British Medical Association in regard to medical defence. Members of the union had to receive an explanation of the facts of the case and that cost money.—The motion proposed by Dr. Wethered was duly seconded and carried unanimously.—The proceedings ended with a vote of thanks to the President, to Dr. A. G. Bateman, the general secretary, and to Mr. Hempson, the solicitor to the union.

THE LANCET.

LONDON: SATURDAY, JUNE 3, 1905.

The Protection of our Mercantile Marine from Overcrowding and Disease.

THE last annual report of the medical officer of health of the Port of London suggests many reflections with respect both to the protection of the metropolis from sea-borne exotic diseases and with reference to the sanitary conditions under which the sailor lives when afloat. It is more particularly upon this latter point that we shall now dwell. In connexion, however, with the subject of the introduction of such diseases as plague, cholera, and yellow fever it is necessary to observe that there is too great a tendency in the mind of the public to assume that the river Thames is the only channel along which sea-borne diseases can be conveyed to the metropolis. But without for a moment underrating the value of the admirable work performed by the port sanitary authority of London in this particular, it will be apparent to all those familiar with the broader aspects of the question that London is dependent for its immunity upon practically every port in this country and more particularly upon ports such as Liverpool, Southampton, Bristol, and Plymouth, at all of which places passengers land who within a very few hours become part of this great metropolis. As, therefore, there is no inspection of foreigners or aliens on their arrival by train in London it is obvious that other ports must in some degree share with London the honour of protecting the Londoner from exotic disease. In so far, however, as the metropolis is concerned in its own protection it is eminently satisfactory to find that in the opinion of Dr. HERBERT WILLIAMS, the medical officer of health, "the port sanitary authority is in a position to deal with any possible epidemic with absolute confidence." As, therefore, the year 1904 presented no very remarkable features with reference to exotic disease in this port we shall pass on to consider another question, which is of great importance to seamen generally, and which is dealt with very fully by Dr. WILLIAMS in his current report. Although, in the first instance, our port sanitary authorities were formed to protect us against exotic diseases, and although unfortunately some of our smaller authorities still regard this as their only duty, it is a gratifying fact to find that the larger authorities have duly appreciated their responsibilities with reference to the comfort and the wellbeing of the sailor. It might, indeed, be said that the chief duty of a port sanitary authority during non-epidemic times is to look to the sanitary conditions under which the seaman is compelled to live. No one who has had any experience of life at sea and who is cognisant of the conditions of life in the forecastle will question the utility of this side of the work of port sanitary authorities, and the fact that during 1904 no fewer than 33,493 vessels were inspected in the Port of London will convey some idea of what an important work is being carried out on the Thames in this sense, more especially when it is borne in mind that in nearly 13 per cent. of the vessels visited the cleansing of the crew's quarters resulted from the visit. Of the total number of vessels inspected 84 per cent. were under the English flag.

The conscientious medical officer of health, however, when he inspects a vessel is anxious to do something other than to order the forecastle to be cleansed. He desires above all more cubic space, more ventilation, and more light. But as he leaves the forecastle he turns to an inscription over the door and sees there evidence of the fact that the forecastle has been duly certified by the surveyor to the Board of Trade as fitted to accommodate, presumably as regards space, light, and ventilation, a certain number of seamen, and finding that this number is not exceeded he hesitates before suggesting structural alterations. This is practically the mental attitude of every medical officer of health and although a "ship" is, legally speaking, a "house" the medical officer of health soon finds the impracticability of dealing with a house afloat as he would with a house ashore. The fact is that the provisions of the Merchant Shipping Act relating to the cubic space, ventilation, and so on, of crews' quarters are much in need of revision and until something is done in this direction the work of the port medical officer of health will continue to prove discouraging. As Dr. WILLIAMS points out, the amount of cubic space allowed to seamen is far less than that provided for military barracks, workrooms, and common lodging-houses. Indeed, the result of an investigation made on board four vessels constructed between 1899 and 1904 was to show that in one of the vessels, had the forecastle been occupied by the number of persons for which it was certified by the Board of Trade, each occupant would have had some 85 cubic feet of air space and 12 square feet of floor space, whereas on shore anything below 300 cubic feet per head is regarded as overcrowding. It is pointed out, too, that in a room of the size of the forecastle here in question it would be necessary under the London Building Act to provide two windows measuring some four feet by three feet each, the windows in the forecastle measuring only two-thirds of a square foot. Other instances of a similar nature are furnished in the report before us and Dr. WILLIAMS adds that, in these circumstances, it is not surprising to find a large number of cases of tuberculosis among seamen and firemen. It is for this latter class—the firemen—that Dr. WILLIAMS specially pleads since, unlike the seamen, the firemen spend their working hours under the extremely trying conditions of the stoke-hole. All medical men who have acted as ships' surgeons in the tropics or, indeed, anywhere, will cordially agree with Dr. WILLIAMS on this point.

Doubtless the answer of the shipping interests to these criticisms would be to the effect that it is unreasonable to ask for the same minimum at sea as is asked for ashore and reference would be made to the fact that the wealthy classes take voyages for health and pleasure on modern vessels wherein the cubic space in the state-rooms is far less than

the same class is accustomed to ashore; far less, probably, than the 300 cubic feet of the common lodging-house. This criticism must obviously be allowed weight and reformers will do well to make the allowance. But it has to be remembered that on modern vessels the ventilation of the cabins is a matter which receives great attention and that the lighting is much superior to anything likely to be found in the forecastle. Moreover, the passengers do not take their meals and spend their spare time in the cabins. They have ample saloon and deck accommodation and work neither in the stokehole nor between decks. But Dr. WILLIAMS goes, we think, straight to the main issue when he points out that the forecastle, where it is obviously impracticable, owing to the cramped position and exposure, to procure either adequate light, space, or ventilation, is not the proper place for crews' quarters. He urges, and there is clearly much to be said for the suggestion, that in steamships the crews' quarters should be aft and in sailing vessels they should be amidships. Dr. WILLIAMS proposes as a remedy for the present unsatisfactory standards of the Board of Trade—and a similar suggestion was, we believe, made a few years ago by the medical officer of health of Manchester—that the plans of all new vessels should, in so far as the inhabited quarters are concerned, be approved by the local sanitary authority on the lines of model by-laws drawn up by the Local Government Board. There can be no doubt, assuming that the smaller sanitary authorities had the necessary expert advice at their disposal, that advantage would accrue from such a course, although we doubt the reasonableness of pressing for land standards. The conditions under which the sailor lives are slowly improving and if the crews' quarters could be removed to a position where light, space, and ventilation might be easily secured a very material further advance would be made. Perhaps the London port sanitary authority could persuade the President of the Local Government Board to receive a deputation upon the subject or a conference might be arranged between the shipping companies and the port sanitary authorities.

Nutrition and Malnutrition.

THE application to pathological conditions of the results obtained by physiologists in their study of the normal structure and functions of the tissues and organs of the body and of those obtained by cytologists in their study of the manifestations of life in simple organisms has in many cases contributed materially to the elucidation of the problems of disease, and the somewhat trite definition of pathology as "physiology in difficulties" is more than justified. In the special department of neurology the closely associated study of the physiology and pathology of nervous organs has yielded a fruitful harvest to both and the neurologist in nearly all cases is both neuro-physiologist and neuro-pathologist. In other branches of medical work unfortunately the association in the past has been less close, at any rate in this country, and in the study of vital phenomena the physiologist and the physician are apt to look upon one another with some degree of mutual distrust, the physiologist regarding the conclusions of the physician from a study of disease as of necessity too inexact to admit of physiological inferences, the physician, on the other hand, regarding the conclusions of the physiologist as theoretical and inapplicable, and therefore neglecting to keep in touch with recent physiological literature relating to his own sphere of work—a matter, indeed, of great difficulty in these days of numerous publications.

In his Lumleian lectures delivered before the Royal College of Physicians of London and published in our columns[1] Dr. W. H. ALLCHIN has summarised in a masterly fashion some of the problems in the bio-chemistry of nutrition and the present state of our knowledge in regard to them. Dr. ALLCHIN possesses a faculty for concise statement, for lucid exposition, and for critical acumen which have enabled him to condense within the limited compass of three lectures a wealth of information and of suggestive lines of thought for future research. Dr. ALLCHIN has not hesitated to devote two of his three lectures to the study of the normal processes, to the statement of recent work, and to the general trend of physiological opinions at the present time, and has not feared to include controversial matter or suggestive hypotheses, but always clearly indicating how far such views are supported by experimental facts. The method in his hands yields such excellent results that we can only express the hope that other workers in the border regions of physiology, pathology, and therapeutics will follow the lead so suggestively given, the more so that the method after all is the most rational one and serves, moreover, the double purpose of affording to the physician suggestions in his work and of opening out possible new lines of research to physiologists in the elucidation of problems of disordered function. Dr. ALLCHIN defines "nutrition" as "that series of changes which the ingesta undergo in the body to fit them for use by the living matter in the maintenance of its own integrity and as the material from which energy is liberated," and further states that "underlying as it does the characteristic activities of living matter nutrition may in its widest sense be regarded as synonymous with life itself." The material factors of the nutrition problem are "the living matter of unknown and perhaps unknowable exact composition of the chemical nature of which we have any conception from its derivatives only; and, on the other hand, its food which corresponds in great measure to these same derived substances." The essential point of the whole problem is the assimilation of the nutriment or its incorporation into the protoplasmic molecule. A very important point made by Dr. ALLCHIN, the more important seeing that it is often lost sight of in the discussion of the problems of nutrition, is that protoplasm is not of uniform composition even in the same organism and therefore that the nutritive needs of the different constituent cells are not exactly the same. In other words, we may regard each cell as a small factory requiring its raw material in its own special forms to be dealt with in its own special manner. Dr. ALLCHIN illustrates the problem of nutrition by "the conception of a pyramid up the slopes of which the requisite food-stuffs travel with ever-increasing complexity of composition until when the summit is reached the molecule topples over, as it were, from sheer instability, to pursue its descent towards those simpler atom-groups which we recognise as waste products, liberating in its

[1] THE LANCET, April 29th, May 6th, 13th, and 20th.

progress that energy which it had accumulated in the process of its synthesis." He points out, however, that we must recognise that the two processes of anabolism and katabolism are not to be regarded necessarily as a sequence, but rather as coincident and perhaps even mutually determined, and since energy is used up in anabolic operations that the actual energy necessary has to be furnished by coincident katabolic changes in the cell. The chemical changes involved in many of these processes are such as can be more or less successfully imitated by laboratory methods, but always by high temperatures or strong chemical reagents or powerful electric currents which would inevitably destroy the life of the cell; whereas in "the simplest living cell these changes are effected rapidly and surely without any such powerful agencies." The manner in which these changes occur in the cell according to recent research seems to be in nearly every case by the action of enzymes or chemical ferments, themselves the product of the living cells, even the processes of oxidation and perhaps reduction being apparently brought about by ferments such as the "oxidases." In other words, the study of the nutrition problem resolves itself largely into the study of certain special ferment actions and the conditions favouring or hindering these actions; and although this is unfortunately far from the actual solution of the problem owing to our lack of knowledge of the nature and mode of action of these ferments yet it somewhat simplifies the problems by indicating lines of research. Dr. ALLCHIN gives a very comprehensive account of the ordinary digestive ferments, including their wonderful adaptation to the purpose for which they are required and their interdependence, discussing also the rôle played in these processes by secretin and enterokinase. He further discusses the existence of proteolytic ferments and of "erepsin" in the tissues themselves as possibly serving to effect that transference of proteid from one tissue to another which undoubtedly occurs in starvation. The section of the second lecture summarising the views held with regard to the rôle of ferments in nutrition is of particular interest and contains a statement of the views of CROFT HILL on the reversibility of ferment action, showing that the older views of ferments as always katabolic in tendency must be modified and their power of effecting synthesis must be admitted.

The relation of the nervous system to nutritive processes is also discussed and Professor LOEB's interesting experiments on the relations of "ions" to vital activity and nutrition are referred to as possible factors of importance in determining intracellular fermentation and its phases. The third and last lecture, in which the views enunciated and elaborated in the first two are applied to the study of conditions of malnutrition, is of especial interest and importance. The problems discussed are necessarily of great complexity, varying from the comparatively simple case of starvation, which can be readily investigated, to the difficult problem of perverted metabolism in cachexias, or as a result of the action of toxines. The effects of an excessive diet, or of diets wrongly constructed, are also discussed, as are the effects on nutrition of maldigestion and malabsorption. Dr. ALLCHIN points out that deficiences in the quality and quantity of the food and disorders of the digestive processes may occur without the production of any degree of malnutrition and that it is not until the essential factor of nutrition—i.e., ferment action—is involved that actual malnutrition supervenes and that, therefore, the chief conditions leading to malnutrition are those which hinder or modify the normal ferment actions. The results of a deficient supply of oxygen or inability to use it are next described and the deficient oxidation and "air hunger" of the diabetic in the state of coma are referred to the incapacity of the tissues to make use of the oxygen supplied to them. The lecture concludes with a brief study of atrophy, degeneration, and death, and Dr. ALLCHIN infers from a study of LOEB's researches that "if, then, it is possible by the application of certain electrolytes to avert from a living ovum what may be termed its natural death, similarly to avert the degeneration and death of the tissue cells of higher organisms may be looked upon no longer as a hopeless quest."

The Spread of Small-pox occasioned by Small-pox Hospitals.

CONSIDERABLE attention is just now being directed to the effect of small-pox hospitals in increasing the prevalence of the disease among susceptible people living in their neighbourhood during epidemic periods. The subject is of considerable importance in view of the necessity of small-pox hospitals to control the spread of this disease in the present state of our vaccination law. Its study is by no means easy and requires collection and comparison of a mass of statistical and other data scattered through a variety of public health reports and official blue-books. A valuable series of recent reports issued in connexion with the prevalence of small-pox during the past few years, together with the discussions which have lately taken place at the Newcastle meeting of the Royal Sanitary Institute and at the Epidemiological Society of London, enables us, however, to bring together some of the main considerations which arise. Much new light has been thrown on the question of the carriage of small-pox infection by means of aerial convection currents but with this large subject we are unable to deal in the compass of the present article. Here we desire to draw attention to the most conspicuous feature of the reports and discussions to which we have referred, namely, the almost unanimous testimony to the reality and the importance of what is termed "hospital influence" in epidemics in which the small-pox hospital has been situated within a town or in some other position in which it has had a considerable populous area in its vicinity. Fortunately at the present day it is comparatively rare for small-pox hospitals to be thus placed. The experience of London before all small-pox cases were removed down the river as a result of Mr. W. H. POWER'S classical inquiries has become a matter of history. This experience, together with the numerous instances of a similar kind which have since been reported, has led in many cases to separation of hospitals intended for small-pox from those utilised for other infectious diseases and to the selection for the former class of hospitals of sites which lie in sparsely populated districts. During the past five years, however, several places which have been attacked by epidemic small-pox have depended for isolation on hospitals which have had considerable collections of

dwellings close to them. In several of these places the facts as to the local incidence of small-pox have been ascertained by careful and minute inquiries which leave no doubt of the marked effect which the hospitals in question have exerted on people living in their neighbourhoods. In 1901 there was the well-known instance of the small-pox hospital ships in Long Reach and their effect upon the prevalence of small-pox in Purfleet and in other places on the northern bank of the Thames opposite the ships, reported first by Dr. J. C. THRESH and later by Dr. G. S. BUCHANAN. In 1902-03 occurred the severe epidemic of small-pox in Liverpool, the relation of which to the three small-pox hospitals of the city is dealt with in Dr. R. J. REECE'S report to the Local Government Board referred to in THE LANCET of May 27th, p. 1456. The epidemic of small-pox which affected Gateshead and the adjoining district of Felling in 1903-04 was shown by Dr. BUCHANAN and by Dr. T. E. HILL to have been increased to a considerable extent by the persistent and excessive incidence of the disease round the Sheriff-hill Hospital which was used for the isolation of the Gateshead cases. Dr. A. K. CHALMERS has furnished a remarkable series of data showing that during the successive epidemics which have occurred in Glasgow between 1900 and 1904 it happened on each occasion that in whatever part of the town small-pox originated it sooner or later became concentrated in the eastern corner of the city in the areas which are in closest proximity to the municipal hospital at Belvidere. After making every allowance for reported negative instances (such, for example, as the escape of institutions near the Edinburgh small-pox hospital described by Dr. C. B. KER to the Epidemiological Society) the fact remains that recent experience not only has illustrated the frequency with which "hospital influence" has been traced where the conditions permitted but also has emphasised its practical importance and the necessity for its prevention. The "standards" which have been laid down by the Local Government Board regarding limits of population in the vicinity of a small-pox hospital have often been criticised. They are open to the objections common to most standards; in some instances, as last year in what is called the Nottingham case, they have been opposed on the ground that they do not provide sufficient security, while in other cases, especially where small hospitals are in question or where the population near the hospital is concentrated in one or two institutions, it has been urged with some force that to insist upon strict compliance with the standards is needlessly vexatious and entails an amount of administrative inconvenience disproportionate to the risk which it is desired to minimise. But however this may be, it can hardly be disputed that in their broad result of securing that the majority of small-pox hospitals in the country have been placed away from important centres of population the official regulations have gone far to remove one of the most important agencies by which epidemic small-pox may be spread and maintained.

HOSPITAL FOR SICK CHILDREN.—Before Mrs. Choate, the wife of the retiring American Ambassador, sailed for the United States on Tuesday, she sent a donation of £20 to the Hospital for Sick Children, Great Ormond-street, in which institution Her Excellency was much interested, as a parting gift.

Annotations.

"Ne quid nimis."

THE TENURE OF PUBLIC HEALTH APPOINTMENTS.

IN THE LANCET of April 29th we commented upon the very unsatisfactory state of matters existing in the Chipping Sodbury rural district with regard to its medical officer of health. To recapitulate, Chipping Sodbury has ever since 1873 acted in concert with several other district councils of Gloucestershire by appointing a joint medical officer of health and that officer since 1873 has been Dr. F. T. Bond, who since 1888 has been annually re-elected by the individual councils. In October, 1904, three new parishes were added to the Chipping Sodbury district and the council of that district requested Dr. Bond to undertake the control of these additional parishes without any extra remuneration. Dr. Bond naturally enough demurred at doing this and eventually he was granted an increase in salary of £33 per annum. When the time for his re-election came the Chipping Sodbury rural district council refused to re-elect him and appointed a local practitioner. The council further desires to withdraw from the combination of councils and applied accordingly to the Local Government Board to sanction the appointment of its nominee but the Local Government Board has not done so. An inquiry, on the contrary, was held by the Board and as a result the following letter has been addressed by the Board to the constituent councils of the districts:—

[COPY.]

Local Government Board, Whitehall, May 11th, 1905.

SIR,—I am directed by the Local Government Board to state that they have had under their consideration the present condition of the combination for the appointment of a medical officer of health for the rural districts of Chepstow, Chipping Sodbury, Cirencester, East Dean and United Parishes, Gloucester, Lydney and Tetbury, and the urban districts of Awre, Cirencester, Newnham, Tetbury and Westbury-on-Severn, in connexion with the proposal of the Chipping Sodbury rural district council to withdraw from the combination.

The Board would point out that various important questions would arise with regard to the appointment of the medical officer of health, not only for the part of the combination that proposes to remain in union but also for the Chipping Sodbury district, if it is severed from the combination—and with regard to the salaries of these officers.

Before the Board come to any decision on the matter, they would be glad if the several constituent councils would appoint representatives to discuss the present position with a view to seeing whether an arrangement cannot be come to by which the Chipping Sodbury district will remain a part of the combination. The Board are very averse from the breaking up of the combination and before they take any action with a view to its continuance, they would be glad to have the observations of the constituent members after such a discussion as that referred to.

The Board have addressed this letter to you seeing that the late clerk to the Gloucester rural district council acted as clerk to the old joint committee of delegates, and the Board would feel obliged if you would make the necessary arrangements with the several constituent authorities for calling the meeting suggested.

I am, Sir, your obedient servant,
(Signed) JOHN LITHIBY, Assistant Secretary.

The Clerk to the Rural District of Gloucester.

We have not yet heard whether the members of the Chipping Sodbury rural district council have accepted the invitation to confer with the representatives of the other councils in the combination but we congratulate the Local Government Board on its action. It is, we fancy, a new departure for that Board to attempt to bring a recalcitrant district council under the influence of the public opinion of its neighbours. If the Chipping Sodbury rural district council persists in withdrawing from the combination and in appointing its own medical man without the sanction of the Local Government Board his salary will have to be paid in full by that council instead of one-half being provided by the county council. But the action of the Chipping Sodbury rural district council is a good object lesson in the uncertainty of tenure which medical officers of health suffer. No complaint was brought against Dr. Bond of neglect of his duties and apparently the sole reason for his dismissal by Chipping

Sodbury was his refusal to look after the health of the three added parishes for nothing. The conference of councils is summoned for June 19th.

POISONOUS HONEY.

POISONING by honey has been known since the days of Xenophon, when it seems to have been fairly common, and has been observed in various parts of the world—Germany, Switzerland, North and South America, India, and New Zealand. In the *New Zealand Medical Journal* for April Dr. E. D. Aubin has published an important paper on cases of poisoning due to wild honey, which were observed most frequently in Maoris. As the poison evidently is derived from plants visited by the bees its nature varies in different countries and so do the symptoms. In New Zealand only wild honey appears to cause poisoning. The symptoms usually followed ingestion of the honey in less than an hour. Three modes of onset were observed which Dr. Aubin terms respectively gastric, nervous, and cerebral. In the gastric form giddiness and nausea are followed by severe and persistent vomiting which may last on and off for two days. There is usually some abdominal pain but this is not as a rule a prominent symptom. The mouth feels dry and glazed. Apparently no irritant action is exerted on the bowel for diarrhœa was never observed. In the second mode of onset Dr. Aubin attributes the symptoms to irritation of the peripheral nerves, which is indicated by tenderness in the muscles; pains, chiefly of a burning character, in the muscles of the arms, the legs, the back, and the abdomen; itching; and a feeling of "pins and needles" or numbness in the arms and the legs. Such symptoms are observed in the early stages of peripheral neuritis and in poisoning by mussels. In the third mode of onset cerebral symptoms occur. For example, a Maori who had partaken largely of honey suddenly dropped down in a fit. He became unconscious and fits recurred at intervals. Delirium may be the first symptom. In severe cases, as a rule, the gastric, nervous, and cerebral symptoms are combined, one set of symptoms predominating. The characteristic symptom of poisoning by honey as observed in New Zealand is the epileptiform fit. This, as stated, may mark the onset or may not occur for an hour or more. It differs in no way from an ordinary epileptic fit and may be preceded by a cry. The head is jerked to one side with conjugate deviation of the eyes and tonic and clonic spasms occur. Cyanosis and frothing at the mouth are present and the tongue may be bitten badly. After the fit the patient may be quiet and may sleep or may be restless and delirious. In severe cases the patient is unconscious between the fits which usually recur several times. In some cases the convulsions may be more or less continuous and may result in death. The fits generally cease in less than 24 hours. Slight vaso-motor phenomena are usually present, the face and the skin generally feeling hot and swollen. Urticaria was never observed. The duration of the illness is from a few hours to two days, though nervous symptoms are sometimes complained of for a considerable time afterwards. In fatal cases death usually occurs within 24 hours. The symptoms, no doubt, are due to a poison in the honey, probably of the nature of an alkaloid which affects chiefly, if not wholly, the nervous system. The gastric symptoms, Dr. Aubin thinks, are of cerebral origin—a view which is supported by the absence of signs of intestinal irritation. We may add that in other countries such signs have been observed. As to the source of the poison, Mr. Hopkins, Government apiarist, thinks that it comes from the yellow flowers of a cress-like plant called the "whauriki" which grows chiefly in swamps. In other countries a species of rhododendron has been suspected. Wild honey found near the New Zealand swamps is especially liable to be poisonous. The most remarkable feature of the symptoms is the epileptiform fits—a condition unknown in acute poisoning due to any other cause, though well recognised in chronic plumbism. With regard to treatment Dr. Aubin recommends the administration of an emetic if vomiting has not occurred and washing out of the stomach in all cases. Potassium bromide should be given in full doses. A dose of calomel followed by an enema is also beneficial. As a rule stimulants are not advisable but may be given if the heart is failing. In cases of continuous fits bleeding and saline injections are indicated.

CENTENARY OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

AT the premises of the Royal Medical and Chirurgical Society there was on view during the celebration of the centenary of the society an interesting exhibition of books, instruments, and other objects brought together mainly for the purpose of illustrating the condition of medicine at the time when the society was established. The exhibition contained objects in connexion with the early history of the Royal Medical and Chirurgical Society and in addition it included memorials of various kinds relating to the presidents of the society. There were also exhibited some of the medals which had been struck to honour or to commemorate Fellows of the society. The exhibits were arranged in six sections. The first section contained books and was subdivided into three parts, the first part being that of books in use by the society in the year of its foundation, 1805. The second part comprised books and pamphlets on vaccination, including a Chinese work printed in the tenth year of the Emperor Kea Kong (1805) with an English translation by Sir George Macartney sent as a present to Dr. Jenner. The third part contained a few miscellaneous books amongst which was a Pharmacopœia of St. Bartholomew's Hospital printed in 1799 by J. Adlard and lent by Mr. R. E. Adlard. The second section contained manuscripts. Amongst these was a list of the so-called African surgeons who were persons who had passed an examination in medicine and surgery at the Liverpool Royal Infirmary and were considered competent to act as surgeons on vessels engaged in the slave trade. There was also a letter complaining that other bodies had certified candidates who had been rejected by the Liverpool Royal Infirmary, many of whom were not only destitute of medical and surgical information of every kind but also of every other species of information. The third section comprised instruments and amongst these the midwifery forceps which belonged to Dr. John Burton, the prototype of Dr. Slop in "Tristram Shandy," who in Chapter XIX. is thus referred to: "Of all men in the world, Dr. Slop was the fittest for my father's purpose; for his newly-invented forceps was the armour he had proved to be the safest instrument in deliverance." The fourth section was made up of portraits and the fifth section of medals. The sixth section was labeled Miscellaneous and contained some curious pictures; one was that of the birth of Parikshit of the family of Krishna. The child was born dead but was restored to life by Krishna. On the left of the picture the mother is depicted in the birth chamber undergoing the treatment which has been customary for many ages in India. It is always a good thing for the members of any profession to look backwards as well as forwards and it is more important for the medical profession than perhaps for any other. Not only do we profit by what we know to have been the mistakes of our ancestors, but we learn the valuable lesson that in many matters we do not know much more than they did. Some little time ago an American physician, Dr. Eugene F. Cordell, delivered an interesting address before the Medical and Chirurgical Faculty of the State of

Maryland in which he lamented the lack of the teaching of medical history in the universities of that State. He pointed out that the study of medical history taught us what and how to investigate, that it increased knowledge and strengthened the judgment, that it was a mine from which many neglected or overlooked discoveries might be brought to light, and that it taught us to cherish our best traditions. With these opinions we thoroughly agree and we congratulate the Royal Medical and Chirurgical Society upon having made a historical retrospect a part of its centenary celebration.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND: ELECTION OF MEMBERS OF COUNCIL.

AT the annual meeting of Fellows on the first Thursday in July there will be elected four Members of Council. Three of these vacancies will be occasioned by the retirement in rotation of Sir Henry Greenway Howse, Mr. Edmund Owen, and Mr. Rickman J. Godlee; the fourth vacancy will be due to the resignation of Sir Alfred Cooper. We understand that Mr. Owen and Mr. Godlee will offer themselves for re-election but that Sir Henry Howse will not stand again. Mr. C. H. Golding-Bird, surgeon to Guy's Hospital, announces his intention of standing for one of the vacancies and Mr. Harrison Cripps, surgeon to St. Bartholomew's Hospital, also proposes to be a candidate.

REPEATED COPIOUS HÆMOPTYSIS FROM AN AORTIC ANEURYSM.

To the general rule that rupture of an aortic aneurysm is immediately fatal rare exceptions have been recorded. One was recently published in our columns by Dr. C. H. Melland.[1] Usually one or two severe hæmorrhages have been followed by months or years of exemption. In the *Johns Hopkins Hospital Bulletin* for March Dr. T. W. Clarke has reported a case which appears to be unique in the occurrence of a series of large hæmorrhages. A man, aged 39 years, came into hospital, under the care of Dr. E. F. Cushing, on July 13th, 1904, complaining of pain in the right upper chest, cough, and hæmoptysis. There was a history of gonorrhœa and soft chancre but not of syphilis. The patient dated his present illness from a year before admission, when he began to have discomfort in his chest, especially on the right side, dyspnœa, dizziness, tinnitus, and attacks of weakness. His general condition became worse until two weeks before admission when he began to cough and to expectorate small quantities of blood. The pain in the chest grew more severe and on admission extended to the right shoulder and down the right arm to the elbow. On the day of admission profuse hæmorrhage occurred. On examination he was found to be a muscular man, coughing frequently and expectorating considerable quantities of blood-stained mucus. The voice was husky but not "brassy." The left pulse seemed slightly fuller than the right. There was a slight tracheal tug. In the first, second, and third right intercostal spaces there was visible pulsation but no bulging. Over the pulsating area a slight systolic impulse, followed by a diastolic impact, was felt and dulness was obtained. In the back dulness extended from three centimetres above the angle of the right scapula upwards for eight centimetres. Over the right upper chest were heard a diastolic shock and a loud friction rub synchronous with the respiration. Aortic aneurysm was diagnosed and a modified form of Tufnell's treatment was ordered but the patient objected so much that the attempt had to be abandoned. After the second day the bleeding stopped and the cough and pain were greatly relieved, but on July 23rd four ounces of almost pure blood were expectorated. This was the beginning of a remarkable series of 16 hæmorrhages. The others took place as follows: July 29th, 8 ounces; August 2nd, 12 ounces; 6th, 32 ounces; 9th, 16 ounces; 11th, 36 ounces; 17th, 16 ounces; 20th, 6 ounces; 21st, 20 ounces; 24th, 23 ounces; 28th, 10 ounces; Sept. 2nd, 4 ounces; 3rd, 2 ounces; 5th, 16 ounces; 13th, 8 ounces; and 14th, 7 ounces. This makes in a period of seven and a half weeks over 14 pints of almost pure blood. The hæmorrhages came on after some exertion, such as sitting up or reaching for an article on the floor, lasted only a few minutes, and were accompanied by paroxysms of coughing. They were stopped by the administration of morphine, as much as a grain being sometimes required. The patient became steadily paler and in the first month the red corpuscles fell from 4,864,000 to 2,304,000 and the hæmoglobin from 65 to 38 per cent. On Sept. 15th, during a fit of anger, the patient sat up in bed, became very weak, broke out into a cold sweat, and said he was dying. He died in about 20 minutes. During the last few days of life there were signs of fluid in the right chest. At the necropsy 3000 cubic centimetres of dark blood-tinged fluid and flakes of fibrin were found in the right pleural cavity. The aorta throughout was the seat of a number of large and small irregular thickened areas which projected slightly into the lumen. On the right side three centimetres above the valves was an oval opening 2·5 by 1 centimetre in diameter leading into a spherical sac nine centimetres in diameter filled with laminated fibrin. The sac was covered by, and adherent to, the pericardium and visceral pleura, but at one point there was a tear five centimetres long communicating with the pleural cavity. Small bronchi could be traced into the sac but no blood was found in the air passages. The repeated hæmoptysis was evidently due to these small communications which ordinarily were plugged by fibrin. On exertion the fibrin no doubt shifted, giving rise to hæmorrhage.

[1] THE LANCET, Nov. 19th, 1904, p. 1414.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

IN the interesting address which appears in another column Dr. Lucas-Championnière sets very plainly before our readers the differences between the course of medical study as it exists in France and in our own islands. Shortly, he says, the differences may be expressed thus. In Great Britain individual effort is everywhere free and encouraged; in France the municipality or the State hinders the development of individual effort. In the former land institutions are autonomous; in the latter centralisation reigns supreme. In France the pupils at secondary schools are closely supervised; in Great Britain the boys at public schools have but little supervision. But when a French scholar enters upon his career as a medical student he becomes practically his own master. Attached to the Paris Faculty of Medicine are some 6000 students any one of whom can work just as much or as little as he likes. He is not tied to one hospital but can attend at any or all of the Paris hospitals and he follows the teaching of any member of the staff of the hospitals as he pleases. In Great Britain the student is practically tied to one hospital and is a pupil of the staff of that particular institution; nay, more, during a portion of his career he is definitely attached to one particular member of that staff. In Great Britain the hospitals are autonomous institutions, while in France they are municipal or Government institutions. In Paris they are all under the Assistance Publique, an organisation which may be roughly compared with our boards of guardians, Local Government Board, and Metropolitan Asylums Board. All the Paris hospitals are under its control, as well as nearly all other charitable institutions. Its annual budget amounts to 45,000,000 francs and it obtains its funds

from certain endowments, from sundry taxes which it has the right to levy, and from a sum voted annually by the city of Paris. Owing to anyone who is poor and in want having a right to hospital accommodation the Paris hospitals are often much overcrowded. No one is better aware of the unavoidable shortcomings of the Paris system of hospital and poor relief than the Paris medical men themselves, but, taken as a whole, the Assistance Publique does admirable work. Dr. Lucas-Championnière's address deserves careful study and we may say that the methods which each nation employs are those best suited to the genius of that nation, but, on the other hand, that the intercommunication which has so recently taken place between the members of the medical professions of France and Great Britain will lead to each nation respectively becoming aware that it may learn to supply its deficiencies from the practice of the other.

SOME ODD FOODS.

COMPLAINT is often made that the average daily meal in the ordinary household is a monotonous round of mutton and beef. In the majority of instances this simple and oftentimes uninteresting cycle of food is compelled on the score of convenience and economy, although with a little more thought and trouble than are usually bestowed on this matter we are convinced that more variation could be contrived. The subject deserves greater attention than it has hitherto received and the results in all probability would be pleasing. In this connexion it is interesting to consider some of the more or less odd materials which man has been led to choose for the purposes of food. Environment, of course, must be a factor in regard to this choice, and necessity also. It is hard to imagine that earth would be used for choice as food and yet such has been the case in many countries during famine. The Laplanders mix earth with their bread, the Russian peasant uses a "rock flour," and the poorer classes in Hungary are driven occasionally to eat an earth which contains but a trifling proportion of nourishing principles. The use of seaweed as food is an example of the determining factors of both necessity and environment. It is not a little astonishing to find what a number of seaweeds are really edible and nourishing. Perhaps the best-known example in this country is laver, which is a kind of stew made from a weed, an alga (porphyra laciniata). The laver made on the Devonshire coast and to be found in some London shops is excellent. The sea algæ, indeed, prove on analysis to contain a considerable proportion of nitrogenous matter and as they are usually tender they are digestible. There are also several sea mosses which are esteemed for their esculent properties. Agar-agar is another example of a seaweed yielding a nutrient jelly. It is supposed that the edible birds' nest so highly esteemed when prepared in the form of soup by the Chinese has its origin in the birds feeding upon agar-agar. On the other hand, it is said that the substance of which the nest is composed is secreted from certain glands which are developed during the nest-building season but which lose this function afterwards. The viscid substance resembles the mucin or albumin excreted by the sublingual gland. The turtle may be regarded as an odd article of food since it is the only example of an edible reptile, at least, in this country. Frogs' legs, again, are rarely eaten in this country, though they are easily digested, possess a delicate flavour, and have about the same nutritive value as chicken. Neither is the snail esteemed as an article of food in this country, though in France it is partaken of in large quantities and so good is it that it has been called "the poor man's oyster." The edible snail, however, is a particular kind and is generally collected in considerable number from the vineyards in the south of France. In Spain the snail is served in a most excellent and appetising manner, and in Paris a dish of selected snails is reserved for the special use of the *gourmet*. Coal would appear to be a strange article of food, but instances are known in which children and cats have been found consuming it in a not negligible quantity. There is no evidence, however, although coal contains an abundance of one of the most important elements of food—i.e., carbon—that in this form it is in the least degree assimilated. It is almost impossible to oxidise by wet methods carbon in the free state, whereas in combination with other elements, and especially hydrogen, as in the carbohydrates, wet combustion in the economy readily ensues. Such instances of odd foods could be multiplied but those quoted serve to show the extraordinary range of material selected by man for the purposes of food.

CRICKET, HEALTH, AND ANATOMY.

WE have received from the Fine Art Society Parts I. and II. of a clever series of portraits which the society is publishing, publication commencing, appropriately enough, in the week when the first match between England and Australia has been brought to a victorious conclusion for the mother country. The work is entitled "The Empire's Cricketers"[1] and conspicuous among the portraits in the first two instalments is that of a medical man whose name is probably as well known to the public as that of any member of our profession. Dr. W. G. Grace (we may accord him the title of "Dr." in deference to public usage without any reluctance as he is no longer, we believe, in practice) may not now be chosen to represent England in a "test" match, but his cricket career is by no means run. Mr. Chevallier Tayler, the artist responsible for the portraits in the series, has caught "W. G." in a characteristic attitude awaiting the ball already on its way towards him, and prepared to come down on it in the resolute fashion that means a boundary hit all along the grass—or should we say "carpet"? We must not, however, be betrayed into the appalling lingo of the cricket journalist. Nor, indeed, is it exactly within our scope to comment upon the very clever illustrations further than to say that even those who are least acquainted with the performances of the selected athletes will find it interesting to examine the various studies of physical vigour and trained muscular effort which accompany the portrait of Dr. Grace. Cricket is a game of so manly a character, and is so essentially English in its origin and development, that many will watch with interest the struggles between the picked teams which will take place during the present season, even if in less enthusiastic moments they may deprecate an unreasonable absorption in the study of a game, may regret that young men should postpone taking up the more serious duties of life in order to prolong their indulgence in it, and may regard with impatience the support by counties of teams consisting almost entirely of paid "players." If, however, such a publication as that under review encourages the young to develop their physical powers by healthy exercise, and to appreciate the fact that temperate habits and careful training of eye and muscle are necessary in order to produce good results where eye and muscle have to be used, it is sure to exercise a useful influence. The mere worship of physical excellence by the curious and lazy is the dangerous extreme which is to be avoided. The excellent reproductions of Mr. Chevallier Tayler's drawings are apparently from originals in coloured chalk upon brown paper and the artist evinces considerable

[1] The Empire's Cricketers, from Drawings by A. Chevallier Tayler, with Biographical Sketches by G. W. Beldam. Published for the Fine Art Society by Messrs. Dawbarn and Ward, Farringdon Avenue, E.C. In 16 parts. Price, each part, 1s. net.

skill in depicting the human frame in vigorous action. Medical men should appreciate drawings of the human frame by one who makes his subjects men of bone and muscle, not mere models in flannel. And as members of the medical profession of all others have to abandon so exacting a game as cricket early, and can find but little time for looking on at it, they will not be sorry to gain some acquaintance with the physical attributes of modern players of note and of methods of attack and defence now in vogue. We may suggest that a good lecture in applied anatomy might be founded upon the pictures. If the actions of (say) Rhodes at the moment of delivering the ball, or Tyldesley at the moment of late-cutting it were used as examples of muscular effort and function we have an idea that the lessons inculcated would stay by the student.

THE ROYAL SANITARY INSTITUTE.

ON Friday, June 16th, at 4.30 P.M., a discussion will be opened at the Parkes Museum, Margaret-street, London, W., by Mr. Edwin T. Hall, F.R.I.B.A., on Sanatoria for Consumption: Design and Location. Among the speakers who have already signified their intention of being present are Mr. H. Percy Adams, F.R.I.B.A., Mr. T. W. Aldwinckle, F.R.I.B.A., Mr. T. W. Cutler, F.R.I.B.A., Dr. C. E. Reinhardt, Mr. A. C. Scovell (chairman of the Metropolitan Asylums Board), Dr. J. E Squire, Dr. F. R. Walters, and Dr. C. Theodore Williams. Major-General the Right Hon. Lord Cheylesmore will preside. Tickets for the admission of visitors, who are invited to take part in the discussion, may be obtained from the secretary. On the following day a visit will be made to the Heatherside Sanatorium, Frimley, the country branch of the Brompton Hospital, conducted by Mr. E. T. Hall, the architect of the sanatorium. Luncheon will be provided for members of the institute and special arrangements have been made by which return tickets can be obtained at reduced rates, a first-class ticket costing 7*s.* 4*d.*, a second class 4*s.* 7*d.*, and a third class 3*s.* 8*d.* Frimley is distant about two and a half miles from Camberley, the nearest railway station, but conveyances will be provided for visitors at the cost of 3*s.* each person. The train will leave Waterloo for Camberley at 11.50 A.M. There are three return trains at intervals of about an hour, the first arriving at Waterloo at 6.55 P.M. Application for tickets should be made to the secretary of the institute.

TRACHOMA AMONG ALIENS.

AN important report has just been issued by Dr. A. K. Chalmers, the medical officer of health of Glasgow, upon cases of trachoma which have been treated in the ophthalmic dispensaries of the city and the subjects of which have been aliens. These aliens are described as consisting of two or more classes, distinguished from each other by the intended duration of their stay in Scotland. At one end is the alien who is also a transmigrant, Glasgow being only a stage in his journey; at the other is the alien who, for a variable period, has become incorporated with the industrial life of the West of Scotland, chiefly as an iron or coal worker, but who in time offers himself at one of the emigration offices for shipment to America. It is further said that the medical inspection of emigrants at the original port of embarkation on the Continent is stringent for the direct transmigrant and quite illusory for those who book only to a port in this country. Dr. Chalmers does not treat the question very seriously, saying that "in its earlier stages trachoma is easily amenable to treatment," that it is not "a disease of fulminating activity," and that "the introduction of a few cases into a district is not, without certain conditions, sufficient to insure a wide extension of the malady." These statements, in view of the past history of the disease, and of its epidemic prevalencies from time to time can only be accepted with much reserve. Like many other maladies trachoma probably confers a certain degree of immunity upon populations among which its milder forms have long been frequent; but, under certain conditions, it assumes terrible activity, and we have no precise knowledge of what these conditions are. It was first introduced into Europe by the army of the first Napoleon on its return from Egypt, and it raged as a veritable pestilence, destroying the sight of a very large proportion of those who were attacked. It next made its way into Ireland where it produced equally disastrous consequences. Of late years, in England, it has chiefly been known in workhouse schools and from these it has only been eradicated by infinite trouble. It is quite conceivable that the secretion of the trachoma which is brought into this country by aliens may be more virulent than that of the home-grown disease and that the importation, after a period of smouldering, may assume a very formidable character. It should, we think, be an instruction to the port authorities under the expected Aliens Act that all persons suffering from the disease should be refused permission to land and that information as to the prohibition should be widely circulated.

THE ASYLUM WORKERS' ASSOCIATION.

THIS association was founded for the benefit of the rank and file of asylum workers, in whose interests a large amount of honorary work is done by medical men and others concerned with the care of the insane. From correspondence in the *Asylum News*, which is the journal of the association, and from the annual report of the latter for 1904 it is clear that those concerned with nursing amongst the insane are alive to the importance of safeguarding their interests in the matter of the State registration of nurses, which is at present engaging the attention of a select committee of the House of Commons. The association is in this matter coöperating with the Medico-Psychological Association, which, as the body responsible for the certification of mental nurses, may be trusted to take adequate measures to protect the interests of the holders of its certificates. We gather from the report referred to that the case of the mental nurse is kept in view in one of the Bills before Parliament on the subject of State registration. In this, the eighth annual report, the executive committee is able to notify a satisfactory condition of the finances of the association, but it is nevertheless the case that the roll of ordinary members, which is composed of the rank and file of asylum workers, shows a falling off of no less than 486 from the numbers in 1903. The roll now stands at 2910. It is not unlikely that local considerations at the various asylums, such as will suggest themselves to those acquainted with these institutions, are responsible for considerable fluctuations from time to time in the numbers of an association such as this. The report notes the improbability of legislation comprising the settlement of the question of pensions in public asylums during the life of the present Parliament. There are, in fact, no signs that the power vested in, and the latitude allowed to, asylum committees and their parent councils in England and Wales in the matter of superannuation of their employés will be in any way modified by the central authority. The present conditions do not make for united action on the part of asylum workers on this question, for whereas some have cause to be satisfied with their prospects and would probably deprecate alteration, others, possibly their neighbours in an adjoining county, are confronted with a deplorable uncertainty in the matter of superannuation, and even in some instances are aware that they will receive no pension. The report further states that attention is being given by the executive committee to the matter of provision of facilities for the training of male attendants in the details of general

hospital nursing. The case of the female attendants is not mentioned, from which it might be inferred that they are not in need, or not in equal need, of such training. We do not know, however, that this inference would be at all a sound one in respect of the bulk of asylums in the kingdom.

BARNWOOD HOUSE HOSPITAL FOR THE INSANE, NEAR GLOUCESTER.

FROM the forty-fifth annual report for the year 1904 of the medical superintendent, Dr. J. Greig Soutar, it appears that the average number of patients resident during the year was 146, the admissions were 38, and 18 were discharged recovered (47·3 per cent. on the admissions, but if transfers from other institutions are excluded, as is usually done, 64·2 per cent. on the admissions). Only four deaths occurred. Family predisposition to mental disease was ascertained in 55 per cent. of the admissions. Dr. Soutar states that whereas some years ago the majority of the recent cases were of the maniacal type, acute melancholia is now the prevailing form of disorder and has been of late years. He is unable to suggest any explanation for this change in type. The report of the committee refers to charitable work done by the institution during the year, five patients having been maintained gratuitously and 66 for payments below the average cost of maintenance. It is found that most patients prefer the hospital itself, with its occupations, amusements, and interests, to the separate houses which are also provided, in which experience this institution is not alone. The Commissioners in Lunacy report that this hospital discharges its curative functions with great efficiency.

PHYSICAL EDUCATION.

IN THE LANCET of August 13th, 1904 (p. 487), we published a letter from Sir Lauder Brunton announcing a proposed national league for physical education. The inception of the league practically dates back to July 20th, 1903, when a number of medical men and others interested in the matter were present at a dinner given at the Athenæum Club to discuss the question. The movement has now advanced to the point of being made the subject of a Mansion House meeting at which the matter will be brought more prominently before the public than has hitherto been the case. The meeting will be held at the Mansion House, under the presidency of the Lord Mayor, on June 28th, at 4.15 P.M., for the purpose of inaugurating this association. The following have promised to speak: the Bishop of Ripon, the Lord Chief Justice, Sir William Broadbent, Bart., Sir James Crichton-Browne, Mrs. Bramwell Booth, Alderman and Sheriff Strong, and Mr. J. Compton Rickett, M.P. The objects of this movement may be summed up as—

1. The stimulating of public interest in the various societies which make the improvement of the physical condition of the people their special care.
2. The bringing into close association, and if possible the *federation*, of such societies, so that they may have increased strength, financial and otherwise.
3. The encouragement of and the advising of societies which find it difficult to hold their own under present conditions.
4. Assistance towards the starting of organisations for the benefit of physical health and well-being in remote or poor districts.

The movement has received such general promises of support from all orders, professions, and institutions, and from distinguished men and women of science, medicine, education, and law, and also from individual peers, Members of Parliament, athletes, and others, that there is no doubt that it will supply a great need and will enable much more forcible work to be done in regard to physical well-being than has been possible up to the present. The organising secretary *pro tem.* is Lieutenant-Colonel V. Mellor (Twentieth Century League), 28, Victoria-street, London, S.W. The official title of the movement has not yet been finally decided upon, but it is hoped to announce it a day or two after the Mansion House meeting. The meeting on June 28th will be only of a preliminary nature and we believe that another will be held shortly afterwards.

PASTEUR AND LISTER.

IN the *Echo de Paris* of May 15th there appears an interesting article by Dr. Raoul Blondel upon Pasteur and Lister. After referring to British science and remarking how this country does not, as do some other countries, subordinate science to commercial necessities, he goes on to say that the Briton has respect for science and that this is all the more meritorious of him seeing that in other respects he is by no means a bad man of business. Thus the scientific union between England and France is rendered easy. England practically gave to the world two great discoveries—chloroform and antisepsis; but both of these were in a measure French discoveries before their application by Britons. Soubeiran discovered chloroform in 1831, independently of, though almost simultaneously with, Liebig, although Simpson was the first to employ it in surgery, and no one is more ready than Lister to allow that it was the researches of Pasteur which first led him to evolve the theory of antisepsis and asepsis. Even these two great men had their predecessors. Davaine and Bassi had discovered the bacteriology of anthrax and that of silkworm disease before Pasteur, while Guerin had employed dressings of cotton-wool to filter the air; moreover, Lemaire, Maissonneuve, and others had directed attention to the antiseptic qualities of carbolic acid before Lister. But it was Pasteur and Lister who, by patient work founded on their own labours and those of others, built up an enduring edifice. Their two names will live for ever together and to them may well be applied the saying of Buffon; "Le genie n'est qu'une longue patience."

A PLEA FOR THE MORE GENERAL USE OF TUBERCULIN.

THE subject of the treatment of tuberculosis of the lungs by tuberculin has recently been dealt with by Dr. H. Batty Shaw in our columns,[1] but Professor McCall Anderson has done good service in calling attention to the value of tuberculin in the diagnosis and treatment of tuberculosis cutis in the annual address which he delivered on May 24th before the Dermatological Society of Great Britain and Ireland. When first introduced by Koch great eagerness was displayed to obtain the preparation, and its indiscriminate and injudicious use undoubtedly did harm in some instances. There were, however, observers who, like Professor Anderson, preserved a firm belief in the remedy, and he laid before his hearers an array of facts pointing to its value in the diagnosis and treatment of tuberculosis in the human subject. He narrated the case of a boy, aged eight years, in whom an obscure chronic peritonitis was not only demonstrated to be of a tuberculous nature but was cured by injections of tuberculin, 22 of which were given between July 9th and Oct. 4th. Other cases were also mentioned in which unsuspected foci of disease in the lungs and elsewhere in persons who were the subjects of tuberculosis of the skin were revealed and relieved by the same means. The efficacy of injections of tuberculin in the treatment of lupus vulgaris and other forms of tuberculosis cutis was particularly brought out by a valuable series of cases, the charts and the photographs of which before and after treatment were shown at the meeting. Without wishing to deny that the x ray and, above all, the Finsen light treatment had yielded admirable results and constitute a valuable addition to our therapeutic measures, Professor Anderson pointed out that there were many cases in which the situation or the extent of the lesion rendered these measures

[1] THE LANCET, April 8th, 1905, p. 923.

unsuitable. He had used the tuberculin treatment continuously since its discovery and had met with no untoward results. Most cases under his care had been benefited and in many the manifestations had entirely disappeared. The preparation used was Koch's old tuberculin and the initial dose for an adult consisted of from a quarter to a half cubic centimetre of a 1 in 1000 solution. This dose was gradually increased according to the constitutional reaction obtained up to as much as one cubic centimetre of pure tuberculin and was administered every third or fourth day, the treatment extending in many cases over a period of six, seven, or more months. At the discussion which followed some of the members stated that they had used the new tuberculin (which is followed by less constitutional reaction and which is prepared in England by Dr. A. E. Wright by heating and triturating cultures of the bacillus tuberculosis) with similarly favourable results and that the process of recovery had been less tedious in some cases than under the light or the x ray treatment. Now that the initial excitement created by Koch's discovery has passed away the subject requires careful consideration and re-investigation at the hands of the profession and Professor Anderson has done well to bring forward so valuable a contribution to the subject.

THE VENTILATION OF TUBE RAILWAYS.

WE have little doubt that several schemes have been suggested for the ventilation of tube railways but the plan brought forward by Mr. B. J. Russell, who has sent us a full description of his invention, has at least the merit of simplicity, and we should imagine of small cost also. It is obviously of advantage to be able to utilise to some extent for the purpose the arrangements that already exist. Mr. Russell proposes to convert every station into a pumping ground on a large scale, each station keeping that section of the line served by it free from vitiated air. In order to expel the foul air he proposes, in a word, to use the lifts and hoistways as pumps. Under the lifts and attached to them he would provide strips of felt, leather, or other suitable material which would slide against the partitions or sides of the hoistway so that the lift in its passage up and down would act as a pump and with the aid of suitable flaps or valves would force out the foul air. For the intake of fresh air he proposes to use the stairway shaft, the structural arrangements being such that the fresh air would be delivered and circulated at the farthest convenient point from where the foul air is withdrawn. It is stated that the work in connexion with the installation of this system could be carried out without any delay or interference with the traffic or business of the day and the cost of the installation would be small in comparison with the benefit resulting from the provision of a constant supply of pure air. We presume that it is taken for granted that so long as the stations are supplied with fresh air the motion of the trains through the tunnels would suffice to draw on this supply for the ventilation of the tunnels and trains. In brief, the principle suggested is that of the air-pump, using the lifts for ejecting foul air and the existing stairways as a channel for the supply of fresh air. Of course certain difficulties may arise, as in the case when extremes of temperature prevail, and no passenger would be grateful for a system which succeeded in pumping a London fog into the Tube.

THE EARLY DIAGNOSIS OF GLYCOSURIA.

AT the meeting of the Paris Academy of Sciences held on May 8th M. Le Goff gave an account of a method by which he had been enabled to determine the presence of the extremely small quantities of sugar which mark the commencement of diabetes. The test depends upon the decolourisation by glucose of methylene blue in an alkaline medium. One cubic centimetre of the liquid to be tested is placed in a test tube together with one cubic centimetre of distilled water and the same quantity of a 10 per cent. solution of potassium hydrate. A film of xylol is placed on the top and the contents of the tube are then warmed by placing the tube in boiling water. A solution of methylene blue of a strength of 1 in 5000 is then added until the blue colour just persists. The amount read off is then divided by seven, which gives the quantity of sugar in grammes per litre. M. Le Goff also applies this method to the estimation of the other reducing substances in the urine of which sugar is not the only one. There are, in addition to the colouring matters of the urine, acetone, certain phenyl bodies and carbohydrates, together with glycosuric acid and its analogues. On the other hand, uric acid, creatinine, albumin, chlorides, and phosphates have no reducing action on methylene blue. It is thus possible to estimate accurately the total reducing power of the urine by means of methylene blue. Methylene blue is not a new reagent in the analysis of urine, but the particular manner in which it is employed in this case is novel and probably an improvement on previous devices.

CONGENITAL WORD BLINDNESS AND CONGENITAL WORD DEAFNESS.

WE have received a reprint of a paper by Dr. C. J. Thomas, assistant medical officer (Education Department) of the London County Council, published in the *Internationales Archiv für Schulhygiene*, Band i., Heft 2, 1905, drawing attention to the importance from an educational point of view of some forms of congenital aphasia, more especially those of partial character. Dr. Thomas draws attention to the fact that, in spite of the knowledge acquired by physiologists and psychologists of the nature of the nervous mechanism of speech functions, very little application of that knowledge to the practical problems of education has yet taken place and education is still very largely empirical in its methods. For example, no cognisance is taken of the fact, well recognised though it now is, that memories differ in different individuals, in some being largely visual, in others auditory, and in a third group mainly kinæsthetic. As an illustration of the importance of careful study of the processes of memory, especially in those in whom it is defective, Dr. Thomas records in his paper a series of cases of congenital word blindness, a condition which he states to be not at all uncommon, 50 cases having come under his own personal notice. In cases of this type vision is normal as a rule, other memory processes are good and may even be above the average, but there is a defect in the faculty of storing up memories of the meanings of written or printed word symbols. Even the learning of the letters is a matter of great difficulty, although that is usually successfully accomplished after a long struggle, but the learning of words is in most cases an almost insuperable difficulty and yet the child can recognise the word when his kinæsthetic memories are evoked as in spelling it out with voice and lips. The defect is to be attributed to a deficiency or "congenital poverty" of structural elements in the angular gyrus which is the storehouse for visual word memories. A peculiar fact is that in practically all the cases the power of learning Arabic numerals is normal which suggests that the visual memories of numerals are stored in a different area, as is also probably the case with the symbols of musical notation. Dr. Thomas also records a few cases of congenital word deafness in which although the subject hears words he does not understand them. Such children can, however, be taught lip reading and so enabled to follow conversation and also can be taught to speak, when their articulation is usually quite natural. It is easy to see that such cases, apart from such special investigation and training, are apt to be regarded as imbeciles since though they can hear they do not understand. Dr. Thomas gives the bibliography of his

subject which is a very short one, very few cases being as yet recorded; in fact, until now only three cases of congenital word deafness are on record, while only a comparatively small number of cases of congenital word blindness have hitherto been published. The subject is one of great importance, especially to medical officers of schools and educational authorities, since it is essential that in such cases of partial defect appropriate measures shall be taken to educate the children and this is only possible when the defect is properly recognised and classified. Dr. Thomas's paper forms an interesting and highly suggestive contribution to a subject hitherto neglected.

THE DANGERS OF BLAST FURNACE GAS.

AT a recent meeting of the Iron and Steel Institute Mr. D. H. Thwaite communicated an interesting and practical paper on accidents due to the asphyxiation of blast furnace workmen. As is well known, the chief valuable thermal constituent of blast furnace gas is carbon monoxide which, however, is unfortunately very poisonous. Mr. Thwaite has had experience of fatalities which were due to the permeation of gas through the subsoil. In one instance the ground was comparatively moist outside the building but it was still permeable. When the subsoil is dried by proximity to a flue it becomes as permeable as a sieve and on examining the subsoil gas in proximity to a flue in which the gas is slightly under pressure poisonous gas will readily be found. Moreover, crude furnace gas in flowing through the subsoil becomes richer in carbon monoxide and is therefore more dangerous. Also, the gas will find its way into any habitable structure overhead unless the upper ground surface is asphalted or cemented. The subsoil immediately beneath any habitable place will obviously be drier, generally speaking, than that of exposed open-air places and furnace gas escaping from a gas flue will, of course, follow the direction of least resistance. Incidentally Mr. Thwaite describes an apparatus designed for the rapid detection of carbon monoxide in the air. It depends upon the production of a black precipitate in the solution which consists of reduced palladium and not of carbon as stated by Mr. Thwaite. In testing for leakage in an underground furnace gas main he employs acetylene gas which is introduced into the gas main under slight pressure, its peculiar odour being easily identified should any escape occur through the subsoil. Finally he has drawn up the following suggestions with a view of securing a minimum of fatalities from the causes indicated. Where practicable all gas flues and gas pipes should be placed above the ground and, if possible, above breathing level. If the gas flues are underground they should be built of blue bricks set in cement. Gas-flue manholes should be equipped with lids which will prevent leakage of the gas. All habitable buildings should be thoroughly ventilated. The ground surface below the building should be covered with a layer of cement and an open-air space should be formed between the cemented surface and the floor boards of the building. Forced ventilation should be the principle adopted for all occupied buildings in iron and steel works. An air-supply tapped from the cold blast main may be found useful in this connexion. The gas engine exhaust pipes should terminate at a considerable altitude above the work floors and part of the air drawn into the air tube of the blowing engine should be supplied from the engine house. Especial precautions should be taken during the cleaning of flues and stoves. Enamel-lettered warning notices should be prominently posted throughout the works. Fines should be imposed on workmen for careless conduct. A paid ambulance corps should be established. During the blow-out period of slag-tapping operations the men should be withdrawn from the zone of escaping gas. The time allowed to be occupied in poking the fuel in the gas producer for individual men should be limited to three minutes. The reversing valve-pits of gas-fired furnaces should be well ventilated. Roll-call checks of labour employed in gas-flue and stove-cleaning operations should be established. If power gas-pipes have to be placed underground, they should be placed in grate-covered open trenches and the pipe flanges should be planed.

THE DETENTION OF LUNATICS IN WORKHOUSES.

IT might reasonably be supposed that the procedure for the detention of a lunatic in a workhouse under the Lunacy Act, 1890, was by this time sufficiently clearly defined. A question as to the construction of the section of the Act dealing with this matter has, however, recently been referred to the Commissioners in Lunacy and they have thought the point raised one calling for an expression of opinion by the law officers of the Crown. A note of the issue dealt with, and of the views held by, the law officers in regard to it may prove of service to such of our readers as are concerned with the administration of the Poor-law. Acting under Section 24, Subsection 4 of the statute mentioned, a justice may, on the strength of two medical certificates in the forms numbered 8 and 10 in the schedule to the Act, make an order for the detention of a lunatic in a workhouse. The order is in Form 11, is addressed to the master of the workhouse, and contains the following passage.

I —— hereby authorise you to take charge of and, if the workhouse medical officer shall certify it to be necessary, to detain ——.

The workhouse medical officer has already, in Form 10, certified that detention is necessary but this certificate antedates the order. Is a further certificate required and, if so, at what stage is it to be given? The schedule supplies no form for such further certificate and makes no provision for the payment of a fee in respect of it, though this latter omission is, unfortunately, not inconsistent with the spirit of the Act as elsewhere displayed. The opinion of the law officers of the Crown is given in the following words:—

As a matter of law it is not necessary that the certificate mentioned in Form 11 should be signed at, or immediately after, the making of the order. It must, however, be pointed out that the certificate must be obtained before any detention against the will of the patient takes place. Therefore, whenever the case is such that the power of detention is necessary the certificate should be obtained at once in order that the detention may be justified. Detention may become necessary under circumstances which would not leave time for obtaining the certificates if that should be postponed until the event occurs.

It appears, then, that the detention of a lunatic in a workhouse is an even more complicated business than is generally supposed and that not two but three medical certificates are called for.

CASE OF MYASTHENIA GRAVIS WITH PERSISTENT AND DISEASED THYMUS.

IN the *Journal of Nervous and Mental Disease* for March Dr. Charles W. Burr records a case of myasthenia gravis, with necropsy, which is of interest as adding another to the recorded cases of this disease in which the thymus was either persistent in the adult or persistent and diseased and in which there was lymphoid infiltration of the muscles. The patient was a male, unmarried, aged 30 years, and had always been robust. There was no history of syphilis. After suffering much from headache for some two months he noticed that the right eye began to droop and the muscles of the jaw to grow weak. This weakness then spread to the shoulders and arms. The subsequent symptoms may be summarised as follows: slow speech with weak voice and fatigue in talking, difficulty in swallowing, and increasing general weakness. Within eight weeks from the appearance of the drooping of the eye he could scarcely get out of bed. All movements had become very weak with the exception of those of the tongue. The face was mask-like.

There was no muscular wasting. Sensibility to touch, pain, and temperature was normal. There was no fever. The patient died, mentally clear, about two months after the earliest motor symptoms were noticed. In addition to the above, there were visual symptoms not reported, Dr. Burr states, in previous cases—namely, contraction of the visual fields, partial reversal of the red and blue fields, and later colour confusion. These symptoms, it is suggested, may have been merely coincidental. The noteworthy conditions found at the necropsy were as follows: the thymus was prominent and weighed 22 grammes; it contained a chronic abscess; the nervous system was normal to the naked eye and microscopically. In the muscles were found areas of round-cell ("lymphoid") infiltration between the fasciculi. Reference is made to previous cases of myasthenia published by others, including Weigert's original case reported in 1901, and to a good bibliography by Hun.[1]

THE UNBURIED CHILD AND THE GUARDIANS OF THE POOR OF SOUTHWARK.

THE story told by a poor woman, named Campbell, at the Tower Bridge police court on May 27th has been so widely commented upon in the newspapers that the facts disclosed by her need only be recapitulated briefly. On May 16th her child died in the Evelina Hospital for Children. On the 17th she applied with the death certificate to a relieving officer for an order for burial and was told that her husband was the proper person to make the application. On the 18th they went together to the relieving station and were told that they must attend before the committee of the guardians on the 24th. On the 24th they attended as directed and the father was informed that before he could be granted the burial order he would have to break stones for the guardians for two days and that then after the order was granted he would have to pay 1*s*. weekly until the burial was paid for. The father accordingly worked for the guardians on the 25th and the 26th, the money that he earned being retained by them, and on the night of the 26th he received the burial order. He afterwards learnt from the undertaker that the funeral could not take place until the 31st, more than a fortnight after the child's death. During the period which had elapsed the body had been lying uncoffined at the hospital. If in the whole of the recent history of Bumbledom a more disgraceful story has been told we have failed to observe it. Looking at it from the point of view of the hospitals and of those who in sympathy with the efforts of the hospitals by their generosity enable them to relieve the sufferings of the poor in sickness we would ask the Southwark board of guardians to remember that a charitable institution relieved them of the care of the child when sick and that if they could feel no sympathy with the parents they should at least have considered their duty to the community which does not pay rates in order that bodies may be left unburied for a fortnight in summer weather. We frequently refer, when dealing with the question of the support of hospitals by charitable contributions, to the alternative of causing them to be maintained out of local funds administered by local governing bodies. If this would mean making them subservient to such persons as compose the Southwark board of guardians and subjecting the relatives of those bringing the sick to them to conditions similar to those prevailing at Southwark in the case of the burial of the deceased children of the very poor the humbler classes of the community would not be likely to benefit by the change. And yet in justice the hospital supported by the rates would either have to be open to all ratepayers or its aid would have to be subject to some such rules and limitations as those which now apply in the case of Poor-law relief, with the risk of cases of hardship and of misused discretion such as that described.

[1] Albany Medical Annals, January, 1904.

CORONER'S INQUESTS IN LIVERPOOL.

IN an annotation last week under this heading we alluded to the coroner with whose attitude we were compelled to find fault as the Liverpool coroner. This was a slip of the pen. The inquest did not take place in Liverpool but in Earlstown, a neighbouring Lancashire town, the coroner being one of the district or divisional county coroners and not the coroner for the city and county borough of Liverpool. The relations between the Liverpool city and county borough coroner, Mr. T. E. Sampson, and the medical profession have always been absolutely cordial and we regret to have so worded our article as to make it appear that we were criticising his conduct.

THE medical officer of health of the Cape Colony states that for the week ending May 6th the condition of the colony as regards plague was as follows: at Port Elizabeth 1 case, that of a European male, was discovered; at East London 1 case, that of a European male, was discovered; at King William's Town 2 cases, the one an Indian male and the other a native male, were discovered; at Fort Beaufort 2 cases, both native males who had just arrived from East London, were discovered. Plague-infected rodents were found at Port Elizabeth, Uitenhage, King William's Town, and at East London. In the last-named town one plague-infected cat was also found. In other districts of the colony no case of plague in man or other animal was found. At Brisbane, for the period April 15th to 20th inclusive, no case of plague occurred. The last reported case, that of April 1st, was discharged on April 20th and the plague hospital was closed. The last infected rat was found on April 15th. As regards Hong-Kong, a telegram from the Governor received at the Colonial Office on May 29th states that for the week ending May 27th there were 20 cases of plague and 19 deaths from the disease.

THE Colonial Nursing Association will hold its annual meeting on Wednesday next, June 7th, at 3.30 P.M., at Sunderland House, Curzon-street, London, W., by the invitation of the Duke and Duchess of Marlborough. H.R.H. Princess Henry of Battenberg has expressed her intention of being present. The Earl of Westmeath will preside and the speakers will include the Right Hon. Alfred Lyttelton (the Colonial Secretary), Lady Balfour of Burleigh, the Right Hon. R. B. Haldane, K.C., M.P., Sir Patrick Manson, and Sir John Rodger.

THE annual meeting of supporters of the Friedenheim Hospital will be held to-day, June 3rd, at 3 P.M., in the Hampstead Conservatoire, Eton-avenue, N.W., and will be addressed by the Bishop of London and the Duchess of Montrose. The chair will be taken by Mr. John Langton, chairman of the council.

THE forty-fifth annual dinner of King's College, London, will be held at the Hotel Cecil on Monday, June 26th, when Colonel Richard H. Jelf, C.M.G., will take the chair. All communications should be addressed to Mr. John Chapman, honorary secretary of committee, at the College.

A CONFERENCE of imperial, county, and municipal representatives, of medical men and nurses, ministers of religion and district visitors, philanthropists and social workers, will be held at the Town Hall, Pancras-road, N.W., at 3.30 P.M., on Monday next, June 5th.

SANITATION AND THE PANAMA CANAL.

THE SOLUTION OF CERTAIN CLIMATIC AND HYGIENIC PROBLEMS.

BY JOHN GEORGE LEIGH.

I.

THE existence of the Pacific Ocean first became known to Europeans through Columbus, who received certain vague accounts of it from natives whom he encountered during the course of his third transatlantic expedition near the mouths of the Orinoco. Heretofore, the great discoverer had believed that by sailing westward he would reach the Indies and the legendary land of Cathay, and this faith and ambition yet stirred him when in May, 1502, he once more, and for the last time, set sail from Spain for the, until recently, unknown New World. He supposed then, and, indeed to the moment of his death, four years later, that the lands which he had discovered were but outposts or a prolongation of the eastern shores of Asia, and it was to reach the Asian mainland through a passage which he imagined lay between the Gulf of Paria, behind Trinidad, and Honduras, that his final voyage was planned. It was not until Balboa, in 1513, crossed the Darien Isthmus and immortalised himself as the first European to set eyes on the "Great South Sea" that navigators recognised that a new continent had been found, and eight more years elapsed before Magellan traversed the wide expanse of the Pacific and determined the geographical relations of Asia and America. From these times to the present there has been scarcely a generation which has not hoped and believed that it would witness, by an engineering feat, a junction of the waters of the Atlantic and Pacific oceans and the creation of a navigable short cut westward to the Orient. During these four centuries, in various parts of the world, many seemingly more difficult enterprises have been attempted with fortunate issue. The same period has seen the development of many more or less promising ventures to achieve an American trans-isthmian canal; but, until to-day, despite great sacrifice of life and lavish expenditure of treasure, no scheme to this end could with assurance be regarded as the precursor of success.

Needless to say, the project has been much discussed from many and conflicting points of view; and even now there appears great diversity of opinion as to the value of the future ocean highway to commerce and its importance as a political and economic factor. With these questions, of course, a medical journal such as THE LANCET has comparatively little concern, and the same remark applies, but with less force, to the impending definite choice of design and manner of construction. There is, however, one aspect of the question—until recently treated with peculiar neglect—which must very closely appeal to all persons interested in sanitary science and the protection of public health, and it is to a consideration of this that the present paper will primarily be devoted. The author is among those who believe that the Panama Canal during the later stages of construction will prove the most striking object lesson ever offered of the benefits to be derived from a well-armed sanitary organisation associated with a great public work, and that it will, when completed, be a potent factor in revolutionising existing trade routes and in bringing about other political and economic changes, not less startling because they are as yet but dimly foreshadowed. The fiats or humours of politicians or engineers may do much to strengthen or to modify these influences but even more powerful will be the effect of the replies to the following questions:—

1. Can the health conditions of the Isthmus be so ameliorated as to prevent, during the period of canal construction, a recurrence of the appalling mortality among the labourers which accompanied the building of the Panama railroad and the work of excavation along the canal route in the days of the de Lesseps Company?

2. What part is the completed canal likely to play in promoting or endangering public health?

To Great Britain these questions should appeal with special force—the first, because it is hoped by the American authorities that much of the labour to be employed in the construction of the canal and its auxiliary works will be drawn from Jamaica and other British West Indian islands; the second, because of the propinquity of the canal to these islands and the possibility that, in default of necessary precautions, the canal may become even more conspicuous as a focus of disease than of commerce. In the latter event the world would lose rather than gain by the success of the enterprise; ports of already doubtful hygienic reputation would be brought nearer and into closer relations, and intercourse between the nations would be seriously interfered with owing to the necessity imposed upon all healthy ports of exercising a strict quarantine against vessels passing the Isthmus.

For convenience, it may be desirable to recall, in as few words as possible, some of the more salient episodes in the history of the Isthmus and of the long-proposed interoceanic canal which bear upon the questions immediately before us. Boundless as was Spanish dominion in the New World, it contained, from the very beginning, the seeds of ultimate and irretrievable decay. The colonists were for the most part mere hunters after the precious metals and disdainful of steady industry; while the mother country, by rigorously excluding from public employment all but its own actual natives, did nothing to prepare the dependencies for eventual freedom. Over the narrow neck of land between Panama Bay and the Caribbean Sea there flowed during many generations an almost continuous stream of wealth destined to enrich Europe or to be the prey of the robbers of the sea. To-day, however, the only reminders of this period visible in the Isthmus are the ruins of Old Panama, six miles north-east of the present city; the remains of some paved roads, over which the treasure-seekers passed and their spoil was carried eastward; a few dilapidated churches; and a slothful and poverty- and often disease-stricken people. After the eighteenth century the old transit routes fell into disuse and Spanish intercourse with the western ports of America was maintained almost entirely by way of Cape Horn and the Cape of Good Hope. Indeed, it was not until 1848 that the Isthmus again became much frequented by foreigners. Following the cession of California to the United States and the gold discoveries beyond the Rocky Mountains, many thousands of people passed through Panama on their way to San Francisco or to Oregon. To take advantage of this movement an American company pushed on with feverish activity the construction of the Panama railroad, which was opened to public use in 1855; and thenceforward, it is not too much to say, the completion and ownership by the United States of an interoceanic canal become an article of political faith and a question merely of years.

It is unnecessary more than to refer to Baron Ferdinand de Lesseps's ill-starred enterprise, to the crash of January, 1889, and the mass of unsavoury facts brought to light during the course of the consequent liquidation. In October, 1894, a new company was organised to keep clear as far as practicable the line of the canal, already in large degree obliterated by the rank and luxuriant tropical vegetation, to preserve from irreparable decay the plant and buildings of its predecessor, and to obtain an authoritative and independent opinion concerning the feasibility—at that time much doubted—of the completion of the canal. Notable success, far greater, indeed, than had been anticipated, attended the performance of these duties. Towards the close of 1898, after investigations extending over two and a half years, an advisory committee of engineers representing France, England, Germany, and the United States, united in a report, which has since been admitted to be conclusive, demonstrating the practicability of a canal with locks and the possibility—attended, however, with greater difficulties—of a channel level with the oceans. Public opinion in the United States had, up to this time, almost unanimously favoured what is known as the Nicaragua route. The Administration, however, wisely refused to ignore the report to which reference has been made, and in 1899 nominated a commission to investigate "all possible routes." This body, in the first instance, reported favourably to the Nicaragua project but immediately reversed its finding when it became known that the New Panama Canal Company was ready to transfer to the United States for £8,000,000 all its properties and concessions, the whole representing a capital expenditure up to that date of more than £60,000,000. Many difficulties, however, called for settlement before this advantageous offer could be definitely accepted. In Congress the necessary legislation was for a long time obstructed by those who honestly believed the Nicaragua to be the better route

and by others who, in the interests of the transcontinental railways, found the evil climatic reputation of Panama a welcome excuse for staying the progress of any potential competitive canal. Then followed opposition from the Colombian Senate, actuated by belief that better financial terms might be squeezed out of the wealthy United States—a hope rudely dispelled in November, 1903, by the successful revolutionary movement in the Isthmus and the creation of the independent Republic of Panama. Between this community and the United States there now exists a compact, to several provisions of which, of great interest to the medical profession, I must later make fuller reference.

Having completed the purchase of the property of the canal company and handed over to the Republic of Panama the $10,000,000 agreed upon as compensation for the "rights, powers, and privileges" specified in the treaty, the United States Government was enabled, early in May, 1904, to enter into full and undisputed possession of what is known as the Canal Zone—viz., all land and water extending five miles on each side of the centre line of the future canal and for a distance of three nautical miles from low-water mark at the two ocean terminals. In anticipation of this event President Roosevelt had nominated a commission of seven members to continue the work of canal construction and exercise governmental powers in the Canal Zone under supervision of the Secretary of War, and it is of interest to note that in his original letter of instructions—and, indeed, in all his references to the canal—the President laid special stress upon the necessity of efficient sanitary administration. For instance, on May 9th, 1904, he wrote as follows to Secretary Taft:—

> It is a matter of first importance that the most approved and effective methods and measures known to sanitary science be adopted in order that the health conditions on the isthmus may be improved. It is the belief of those who have noted the successful results secured by our army in Cuba in the obliteration of yellow fever in that island that it is entirely feasible to banish the diseases that have heretofore caused most mortality on the isthmus, or at least to improve as greatly the health conditions there as in Cuba and Porto Rico. I desire that every possible effort be made to protect our officers and workmen from the dangers of tropical and other diseases, which in the past have been so prevalent and destructive in Panama.

Towards the close of last year it became evident that operations in the isthmus were much hampered by friction between members of the Commission and between the latter and several of the departments working under it. It was believed, however, until quite recently that the health department had not materially suffered from these differences and that the Commission's record would bear critical examination, so far, at least, as improvement of sanitary conditions was concerned. Considerable sensation was consequently aroused by the publication in a Chicago medical journal of the report by Dr. C. A. L. Reed, President of the American Medical Association, to which the New York correspondent of THE LANCET has recently on several occasions referred. There was much in this document, signed by so distinguished an authority in his profession, to excite disquiet and demand investigation. Unfortunately, however, the report throughout was so disfigured by bias and often personal animus, and the circumstances of its unauthorised publication were so remarkable, even for America, as to deprive it of much weight. Mr. Tuft nevertheless rightly judged it his duty to bring the communication to the attention of the President and to invite such reply from the incriminated commission as the latter might deem desirable. To this reply and a subsequent report from Colonel Gorgas, M.D., the chief sanitary officer in the Canal Zone, it will be necessary for me to allude more fully when discussing the work, past and future, of the American medical authorities in the Isthmus. Although the defence offered by the commission may not, perhaps, be complete on all points it must be regarded for the time as sufficient reply to Dr. Reed's often extreme and somewhat flippant remarks. Seldom, indeed, has a professional report evoked more severe condemnation than that contained in the following letter from President Roosevelt to the Secretary of War:—

> I have received your report of March 17th, together with the report of Dr. Reed and the answer thereto made by the Commission. It appears from this that Dr. Reed's report (which, of course, should under no circumstances have been given to the public until you chose so to give it, and until the answer thereto had been made by the Commission) was, without your knowledge, printed in the medical journals. It further appears that the statements which he thus published were in many instances unwarranted by the facts and his accusations in many instances unsupported by proof. Dr. Reed has not displayed in this report the qualities of temperament or the power of accurate judicial observation needed to make a report valuable to the Government. It is true that he was not charged with the duty of making such a report, and that he was appointed to be a commissioner to assess value of real estate. Nevertheless, when he assumed to make a report on sanitary conditions at your request as Secretary of War he was under obligation to speak with care and judgment on so important a subject and to observe the proprieties as to its publication.

Dr. Reed has possibly found some consolation for this official rebuff in the reflection that his revelations hastened by a few days the fall of the Canal Commission which he so roundly condemned. It had long been expected that the President would request the resignation of most of the members and that this would be followed by a radical change of *personnel* and rearrangement of duties; and these anticipations were more than realised by an order announced on April 3rd, just as the President was starting on his western trip, providing for a complete reorganisation of Isthmian affairs. This, to all intents and purposes, reduced the number of commissioners armed with executive powers to three—Mr. Theodore P. Shonts, the chairman; Mr. John F. Wallace, the chief engineer; and Mr. Charles E. Magoon, the governor of the canal zone and head of a newly-created department concerned with the administration of laws and sanitation.

More closely connected with the health problem than at first sight appears is the question of the design of the canal. The Isthmian Canal Commission of 1899–1901 recommended a plan for the completion of a canal with locks, based in large measure upon the project formulated by the committee of technical experts appointed by the second French company. It also reported that up to that time there had been excavated about 77,000,000 cubic yards of earth and rock, but that of this total only 39,586,332 cubic yards would be of value in connexion with the new plan. The latter would call for the further excavation of nearly 100,000,000 cubic yards and the total cost of completing the canal, irrespective of payments to the French company and the Colombian Government, was estimated at, in round figures, £29,740,000. Up to a few months ago there seemed little doubt that such a canal would be the limit of American ambition. Since then, however, many of the engineers prominently associated with the enterprise have strongly urged the advantages of a water-way free from the restrictions of locks. They have expressed confidence that such progress can be made and such economies effected by the employment of modern excavating plant in what is known as the great Emperador-Culebra cutting that the channel through this might be lowered to the sea level more rapidly and at less cost than had heretofore been regarded as within the limits of possibility. They have also arrived at the conclusion that the all-important problem of controlling—in the interests of the safety of the canal and of navigation—the immense floods which periodically rush into the region of the canal from the Upper Chagres river can be effectively solved by the construction of an immense dam in the neighbourhood of Gamboa and other regulating works. Should these representations prove convincing to the advisory board of engineers which has recently been constituted, there is little doubt that Congress will be invited early in the ensuing session to sanction the additional expenditure—according to the very lowest and most favourable estimate £5,000,000—required in connexion with the sea-level scheme.

So far as navigation is concerned, a sea-level canal offers obvious advantages, not the least being the lesser time required for crossing a country the climate of which must always be regarded as menacing to health. The longer period, however, which must be allowed for the completion of such a canal cannot fail to have a malign influence upon the returns of mortality and sickness among the labourers and in the same connexion it should be remembered that the lower the general level of the canal the more necessity will there be for disturbance of marsh land reeking with malaria which, under the old scheme, would have been submerged. This difference will perhaps be made more clear by reference to Figs. 1 and 2. In the latter I have endeavoured to indicate in profile the original elevation of the canal line and the relative amount of excavation made by the two French companies and that which will require to be done by the United States Government, should it be decided to lower the canal, throughout its entire length of 49·07 miles between the six-fathom curves in the two oceans to the mean level of the latter. The earth and rock removed prior to 1892 is indicated in Fig. 2 by the heavier printing, while the white space below, to the line representing the canal bottom (35 feet below the level of the oceans), suggests the enormous amount of

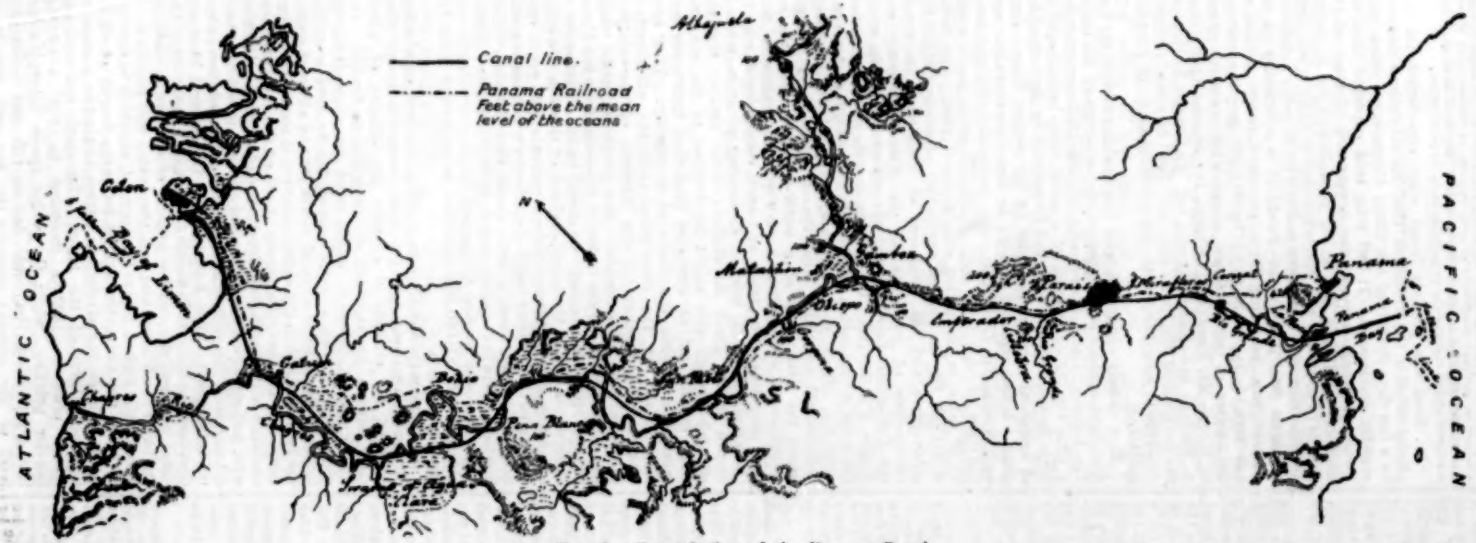


FIG. 1.—General plan of the Panama Canal.

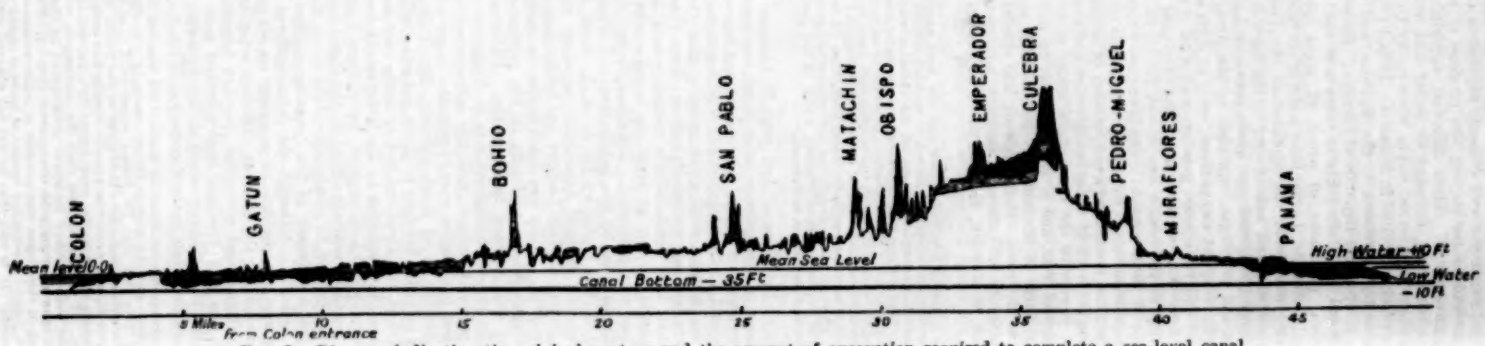


FIG. 2.—Diagram indicating the original contour and the amount of excavation required to complete a sea-level canal.

excavation—most of it in harder material—still required. It should also be noted that the semi-completed sections of the canal as left by the French must first be cleared and then be considerably deepened and widened to realise the standard dimensions demanded by the American engineers—namely, a minimum depth of water of 35 feet, a bottom width of 150 feet, and a top width of 269 feet. The amount of excavation still required in the mountain cutting alone in the case of a tide-level canal will be not less than 186,000,000 cubic yards, or nearly double the amount for the entire heretofore-favoured lock canal. This project contemplated that the limit of excavation in the summit level—i.e., the section between Obispo and the proposed lock at Pedro-Miguel (see Fig. 2)—would be 60 feet above mean sea-level and that by the construction of a dam at Bohio the flood waters of the Chagres would be impounded and create a deep lake extending from the Bohio locks to Obispo—the level of which would be identical with that of the channel through the mountain cutting. Thus, to all intents and purposes there would be effected, as against the sea-level project, a saving of from 12 to 13 miles of excavation, which owing to climatic and topographical conditions threaten danger to health not only during the period of construction but even perhaps after the opening of the canal.

Various estimates have been made as to the time required to complete the Panama Canal. The most sanguine suggest that a channel might, if the high-level and lock design were adopted, be opened to navigation in between eight and nine years from the present time and that a period half as long again would be demanded in the case of a sea-level canal. This difference, admitted by engineers who favour the last-mentioned scheme, calls for the serious consideration of American medical men who, having knowledge of the Isthmian climate, have hitherto refrained from pressing their views upon the Administration and Legislature. I have great faith that, under the direction of such authorities as Dr. Gorgas, Dr. John W. Ross, Dr. H. R. Carter, Dr. Louis A. La Garde, Dr. L. W. Spratling, and others whose names and duties will call for mention later, we may look forward to a very remarkable diminution of sickness and mortality among the workers along the canal route, as compared with the period of earlier excavation; and it is quite possible that the notable advances which have been made in tropical sanitation during recent years, particularly with regard to the causes of yellow fever and malarial fevers, may be instrumental in effectually checking these scourges of the Isthmus. It is obvious, however, that the longer the time devoted to the work of construction the greater must be the risk of abnormal mortality among the labourers and supervisors of their work and this despite compensations resulting from operating in the lower strata, to which I shall more definitely refer in a succeeding article. This being so it seems not unreasonable to suggest that, before the fateful decision, the last word should be spoken, not by the aspiring engineer but by the profession which will be held mainly responsible should the prophecies of ill be justified by events.

Before passing to a study of the Isthmian climate, which I reserve for the following article, a few words may, perhaps, be advantageously devoted to the topography of the canal region. Of this, the most characteristic feature bearing upon the climate is the absence of any mountain range, properly so-called. East and west of the canal line (see Fig. 1) there is a noticeable break in the mountain chain—known in Central America as the Cordillera—which, under various names and aspects, stretches from the extremity of South America to almost the mouth of the Mackenzie River and the Arctic Ocean. Adjacent to the canal line its place is occupied by a series of more or less isolated peaks (*cerros*) of no great altitude which, although composed for the most part of volcanic rocks, are obviously not of volcanic origin. From Colon to Gatun the alluvial plain of the Chagres is bordered by the Mindi Hills and Sierra Quebrancha, the extreme height of which is 200 feet above mean sea level, and these, as well as the adjacent Monkey, Lion, and Tiger Hills still show signs of erosion by the sea. It is only after passing San Pablo that the canal enters what may be described as a mountainous region, heralded, as it were, by hills at Mamei, Juan Grande, and Matachin, and culminating in the so called continental divide, which includes the Emperador and Culebra peaks. Even here the elevation is little more than 300 feet above sea level, with hills on either side rising to about 650 feet. From Pedro-Miguel to the valley of the Rio Grande the descent is comparatively sharp, the most noteworthy elevation on the Pacific slope being the Cerro d'Ancon (420 feet) in the immediate neighbourhood of the city of Panama.

(To be continued.)

MEDICINE, ITS PRACTICE AND ITS PUBLIC RELATIONS.

CHAPTER XIV.[1]

THE PRESENT STATE OF MEDICAL EDUCATION—(*Continued*).

The General Medical Council and the Final Examinations.

THE fact that the medical education of the country is, speaking a little generally, all arranged upon the same plan enables the General Medical Council, as the supreme educational authority under the Privy Council, to adopt one simple process of inspection for each of the qualifying centres, a system as simple as it is drastic. The General Medical Council deputes a visitor, a member of the Council, and an inspector, not a member of the Council, who attend from time to time as the Council directs at the qualifying examinations of the body in question. The visitor and inspector can attend together or separately as they are instructed, and can make joint or several reports. They read some of the candidates' papers and make their own marks upon them, which they afterwards compare with the marks made by the examiners. They listen to the clinical and oral examinations of the candidates and take note of the style of questions that are asked and the style of answer that is accepted. They observe the facilities provided for convenient examination of the candidates, the supply of instruments and pathological specimens, the precautions against copying, the amount of time allotted to the examination *viva voce* of a candidate or the answering of a written question. And finally, they attend at the adjudication of the examiners upon the candidates' merits. In this thorough way they can see if the examination is kept at a proper standard and if the student obtains fair play, and there is no doubt that the criticisms of the Council's delegates, though sometimes resented by the criticised educational body, have been most valuable in maintaining a high general standard of medical training. The gist of the last observations made by the different inspectors and visitors of the General Medical Council in regard to the final examinations of all the qualifying bodies which now follows merits careful attention, for we can see that the supervision of the Council is very real and minute. The strictures which have been passed in some directions show that all qualifying bodies, whatever their position, are treated with the same respect, while the value of the work is proved by the fact that an indifferent report on one occasion is observed to be followed by a good report on the next occasion.

UNIVERSITY OF OXFORD.—The final medical examination of the University of Oxford was reported upon to the Council in 1902, to the surprise of everyone, as not being a sufficiently rigid test of medical knowledge. A further visitation and inspection was arranged for and took place at the end of 1904, with the result that the previous condemnatory verdict was practically reversed. The arrangements were found to be generally good; the standard of pathology was high and the candidates were not too liberally marked; the written and clinical examinations in medicine were satisfactory; the material brought together for the *viva-voce* examination in clinical surgery was especially noted as excellent, while the examination in practical surgery was found to be admirably carried out. The comments upon the tests in midwifery and gynæcology were not quite so cordial, the replies of the candidates showing hardly so high a standard of knowledge as had been displayed in medicine and surgery, but the examinations were found by the inspector and visitor to be "as a whole as satisfactory as any examinations we have visited," so that the stigma has

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., and XIII. were published in THE LANCET of Feb. 18th (p. 447) and 25th (p. 517), March 4th (p. 593), 18th (p. 736), and 25th (p. 817), April 1st (p. 877), 15th (p. 1017), 22nd (p. 1089), and 29th (p. 1151), and May 6th (p. 1218), 13th (p. 1287), 20th (p. 1375), and 27th (p. 1449), 1905, respectively.

been definitely removed from the most ancient of our Universities of providing an inadequate trial of knowledge before granting one of its highest degrees.

UNIVERSITY OF CAMBRIDGE.—The report of the inspector and visitor was quite satisfactory. The examination in pathology, in both parts, was commended particularly. In Part I. the examination in pharmacology was a practical and useful one. A separate paper in therapeutics and prescription writing was held to be an important innovation in the clinical examination in medicine. This consisted of a written report on a case in the wards, with subsequent oral examination thereon, supplemented by an examination of each candidate by two examiners on out-patients, and the inspector and visitor reported that "it was a very complete and satisfactory test." In surgery the examination was considered well arranged but the absence of a separate examination in ophthalmology came in for notice. Also, it was found that the marks obtainable for the written and oral examinations in medicine and surgery at the final examination exceeded those for the clinical and practical portion of the examination, a circumstance which the General Medical Council and all practical educationists think should not occur. But no serious fault was found with the final examinations for medical and surgical degrees at Cambridge.

UNIVERSITY OF LONDON.—The final medical examinations of the University of London were reported upon to the Council in 1903 in not wholly favourable terms, the chief insufficiencies noted being the unpractical character of the tests as shown by the system of marking and the low level of the examination in surgery. A further inspection and visitation was arranged for at an early date and the resulting report was presented to the Council on Saturday last. As in the case of Oxford, the previous adverse verdict was changed. All the plans for the written papers were found to be satisfactory and although there was a hitch in the arrangements for the examination in clinical medicine at one of the hospitals the circumstances were peculiar and allowance was made for them. The tests in written and clinical medicine were found to be, as on the previous occasion, quite satisfactory and well responded to by the condidates, who also acquitted themselves well at a thorough *viva-voce* examination. The questions set in systematic surgery were considered practical and those answers read by the inspector were creditable to the student; while it was specially stated that the standard of the examination in clinical surgery was high. In the third examination, the full marks being 150 and the pass mark 75, ten candidates out of 18 obtained more than 100 and four received about 75, so that the quality of the examined was clearly good. The practical examinations in pathology and forensic medicine were described as searching and those in midwifery and gynæcology as very full and practical, from which it may be gathered that the General Medical Council is perfectly certain now that the medical degree, universally believed to be the hardest of attainment in the kingdom, is a guarantee that its possessor is a thoroughly good all-round man.

UNIVERSITY OF DURHAM.—The inspector and visitor reported the final examination as satisfactory, pointing out that provision had been made for practical examinations in diseases of the skin and of the eye. The absence of similar provision in the matter of otology was noticed. The marks awarded for the written, oral, and clinical portions of the examinations were found to be each valued at 100 per cent., but a candidate who failed to obtain 50 per cent. either in clinical medicine or in clinical surgery was rejected, a provision which meets the defect. The general conclusion arrived at was that "the final examinations for degrees in medicine and surgery of the University of Durham are of a high standard."

VICTORIA UNIVERSITY.—The examinations were passed as "of a most satisfactory character—comprehensive in their scope and systematically and efficiently conducted." But there was again no examination in ophthalmic surgery while too much stress was laid upon chemical toxicology.

UNIVERSITY OF BIRMINGHAM.—The examination for the degrees of M.B. and B.Ch. was, in the opinion of the inspector and visitor, a practical examination of a high standard, well planned and well carried out. The absence of examination in hygiene was commented upon but the practical testing of the candidates in pathology and in forensic medicine was commended. The marks both in medicine and in surgery for the written and the oral examinations exceeded those given for the clinical parts of the examination, this being the only stricture passed by the inspector and visitor.

The final examinations at the universities of Scotland had not undergone visitation and inspection at the hands of the General Medical Council for some time until the autumn of 1904, and the resulting reports were not as favourable as might have been expected. The University of Edinburgh in particular came in for a considerable amount of criticism, while by an error of arrangement in printing certain comments which were intended apparently to apply to the University of Edinburgh only were made to apply to the other Scottish universities.

UNIVERSITY OF EDINBURGH.—With regard to the oral examinations the inspector and visitor made no objections, finding that in medicine "well adapted to elicit the knowledge and attainments of the candidates" and that in midwifery "excellent." But the clinical examinations, which were especially commended by the delegates of the General Medical Council some ten years ago as being a higher order of test than was laid down by other examining bodies, did not escape comment, the clinical examination in surgery being condemned as not practical and the method of its conduct being censured. This report gave rise to an acrimonious debate at the General Medical Council, the inspector and visitor being accused of having exceeded their duties. The justice of a substantial portion of their strictures was, however, directly or indirectly admitted and the spirit of antagonism that was roused by a manifestly honest report did not find much favour outside the Council chamber.

UNIVERSITY OF GLASGOW.—The visitor and inspector expressed themselves as much pleased with the final examinations of this university, reporting the examinations in medicine and midwifery as most satisfactory and those in clinical, oral, and practical surgery as having "reached a standard that can hardly be beaten."

UNIVERSITY OF ABERDEEN.—The reporter for the Council found the examination "a good one and in some points an excellent one," the criticism only amounting to remarks upon detail, concerning which the reporter said that the standard for the whole examination could easily be brought up to the same level as that which characterised the greater part.

UNIVERSITY OF ST. ANDREWS.—The visitor and inspector reported the final examinations as "sufficient." The written and oral examinations were all found satisfactory but the clinical examinations in medicine and surgery were too limited. In the inspection of these examinations the possibility of a student having had access in the hospital to patients upon whose clinical condition he might afterwards have to report was mooted, but those responsible for the conduct of the examination warmly resented the suggestion.

UNIVERSITY OF DUBLIN (TRINITY COLLEGE).—The inspector and visitor reported that there was an excellent oral examination in medicine, as well as a practical and oral one in pathology, the absence of *viva voce* testing having been previously noticed. But all the oral examinations in the University of Dublin were conducted by a single examiner. A separate examination in ophthalmic surgery was recommended and the inspector and visitor were of the general opinion that the final examinations of the University of Dublin were good tests.

ROYAL UNIVERSITY OF IRELAND.—Here the inspector and visitor found that too many candidates were examined simultaneously to admit of efficient personal surveillance. At each part of the surgical examination candidates were examined separately by one examiner only. The percentage of marks for clinical surgery seemed insufficient but the examiners in pathology, midwifery, and gynæcology gave an excellent practical examination. The conclusion of the inspector and visitor was that the final examination of the Royal University of Ireland was adequate but they thought that the details of the examination might with advantage be systematised.

CONJOINT BOARD OF ENGLAND.—The arrangements for the different parts of the examination were found excellent. There was no hitch or delay in any part and, considering the large number of candidates, the organisation was looked upon as perfect. The system of marking came in for criticism, inasmuch as it is still possible for a candidate who has done badly in his clinical examination to recoup himself

viva voce. The oral and practical examinations in medicine were considered satisfactory, but attention was called to the absence of special examinations in ophthalmic and aural surgery. There was no examination in operative surgery on the cadaver, for it was not possible to obtain a sufficient supply of subjects. The examination as a whole was well reported upon.

CONJOINT BOARD OF SCOTLAND.—The percentage of candidates who passed the examination at Edinburgh and Glasgow was almost identical, being 44·8 and 45·0 per cent. respectively. There were defects in spelling and in composition in the papers of some of the candidates and, as showing the important bearing of general upon medical education, it was added that the majority of the ill-educated candidates did not pass the examination. Differences existed between the clinical examinations in medicine and in surgery as conducted at Edinburgh and at Glasgow but in both places there was no examination in operative surgery on the dead subject and no clinical examination in ophthalmic surgery. No questions relating to ophthalmic or aural affections were put at the written examination at either place, nor were questions asked upon the ordinary injuries and diseases of the eye and ear. At Edinburgh one case only was given at the surgical clinical examination. An arrangement by which pathology and materia medica and pharmacy were made the subjects of a separate examination was commended but it was pointed out that morbid anatomy should also be recognised at the examination in medicine and surgery. At this examination it was noted that the examiners were in a hurry and that some of the papers were overmarked, with the result that a bad clinical examination might be counterbalanced. The plan of sending round a schedule was also criticised, as it might induce charitable examiners to stretch a point in favour of candidates who could be seen by the schedule to have nearly reached the pass-mark. Despite these objections the inspector and visitor came to the conclusion that the examination answered its purpose as a sufficient final test, though they added, "We think that the arrangements and system of marking at the written examination might be with advantage revised."

CONJOINT BOARD OF IRELAND.—The main criticism of the inspector and visitor of the final examination of this Board was that the Irish Royal Colleges allowed candidates at their final examination to pass "piecemeal." If a candidate was referred only on those subjects in which he failed they would put forward the recommendation of the General Medical Council that "a percentage of not less than 60 per cent.—supposing that the pass requirement be 50 per cent.—should exempt from re-examination in such subject." The same pass-standard—60 per cent.—might also advantageously be laid down for candidates who presented themselves for examination in a single subject only. The inspector and visitor commented upon the utility or inutility of including mental disease as a special subject in the final of an examination for general practitioners and alluded to the absence of systematic examination in urine-testing and the dearth of questions in anatomy in an otherwise well-conducted examination in operative surgery. The visitor and inspector appear to have thought that the oral examinations in midwifery, forensic medicine, and hygiene were not of a sufficiently demonstrative or practical character and expressed also their views as regards the examination of foreign candidates. They saw no objection to their being allowed, if necessary, the use of a dictionary at the written examination but considered that to permit a foreigner to write his answers to the papers in his own language and to have them translated into English by an interpreter and to admit an interpreter to the clinical examinations might give rise to an objectionable precedent. Viewing the examination as a whole they were of opinion that it was a fair and carefully conducted one, fulfilling its purpose as a test of medical knowledge.

SOCIETY OF APOTHECARIES OF LONDON.—The report of the visitor and inspector was brief and satisfactory. They testified to the great care and thoroughness with which the whole examination was conducted but pointed out that there was no special examination in ophthalmic surgery and that the art of prescribing should have more attention at an examination instituted by the Society of Apothecaries.

APOTHECARIES' HALL OF IRELAND.—The arrangements for the examination were considered satisfactory. The preliminary education of the candidates, only two, appeared very defective. A further inspection again found the examination satisfactory but the candidates of very poor quality.

It will be realised from these reports that in its duty of maintaining the medical education of the country at a high standard the General Medical Council spares no pains and favours no persons. The Universities of Oxford, London, and Edinburgh have been called to order as freely as any corporation. The precautions taken with regard to the examinations are all directed towards making the tests fair, towards eliminating the element of chance as far as possible from the results—concerning this point more will have to be said—and towards the practical equipment of the medical man for his public duties. Notice, for example, the stress that is laid on the absence of attention to ophthalmology, which is a pertinent comment on the widespread usurpation by opticians of medical duties.

(To be continued.)

THE OPTICAL CONVENTION.

IN accordance with an announcement in our issue last week the Optical Convention was commenced on May 30th at the Northampton Institute, Clerkenwell, E.C., when the President, Dr. R. T. Glazebrook, F.R.S., Director of the National Physical Laboratory, opened the proceedings with an interesting address on the objects of the meeting and on the growth of optical science. The growth of the science at the end of the seventeenth century, he said, was due to two men—Christian Huyghens and Isaac Newton. Each appears to have been directed to theoretical optics from a desire to improve the telescope for astronomical purposes. Each was in his own way a mechanic—Huyghens built telescopes and clocks; Newton at the beginning of his optical work applied himself to the grinding of optical glasses to figures other than spherical. Huyghens and Newton were the authors of the two rival theories of optics which held the field for more than 100 years to the days of Young and Fresnel. That period was not very fruitful either in theory or practice, but Fresnel by his work established Huyghens's theory, and though he did not directly add much to practical optics he entirely changed the position from which the theory of optical instruments has to be regarded. Recent progress in the theory of the telescope, the microscope, and the spectroscope is based on his work. The work of the two Herschels and Airy at the early part of the last century was alluded to and the important part in the development of English optics taken by Messrs. Chance through their introduction of optical glass was mentioned. It was pointed out, however, that by the middle of the century there was a marked separation between the theoretical and practical workers so that when photography was invented by Daguerre, Airy's work on the aberrations of a lens and Hamilton's important theorems on rays were unknown to the lens designers. Thus for many years the photographic lens developed empirically. Some account of the change in the position due to the work of Ernst Abbe and the development of this work at Jena and elsewhere brought the address to a close.

Several very interesting papers were read during the meeting, and the exhibition of optical instruments which was held in the large hall proved to be a source of considerable attraction. A number of practical demonstrations was given in the laboratories. The members of the organising committee may be congratulated on the excellent and instructive catalogue which they published. It contains a preface by Dr. Glazebrook in which the object of the convention is defined to be "to bring into close sympathy and coöperation men who are interested in optical matters from all sides of the question, technical and scientific."

In the catalogue the instruments exhibited were arranged in classes, each class being preceded by a short introduction giving a general description of the instruments included in the class. Special attention was paid to convenience of reference and in addition to a complete table of contents an alphabetical list of exhibitors and an index of instruments were provided. In addition to the more strictly optical instruments many other types of scientific apparatus were included; thus one class was devoted to meteorological instruments and thermometers, another to laboratory

instruments; mathematical, drawing, and calculating appliances were also shown. In one section, under "Tools and Materials," was to be found a selection of optical glass by the great glass-making and lighthouse firm—Messrs. Chance Brothers, of Birmingham. Messrs. Powell and Sons, of the Whitefriars Glass Works, had an interesting exhibit of thermometer glass and Messrs. George Colver and other firms showed tools and illustrated processes of manufacture. Another section, "Simple Optical Elements," included an exhibit of accurate work in prisms and plates by Messrs. Hilger and diffraction gratings by Lord Blythswood. The two most important classes in which the excellence of the English work was most apparent was perhaps those of surveying instruments and microscopes; these were both well represented and the exhibits were of special interest. "Spectacles and Eyeglasses" was also an important section, including all the best known makers. A fine historical collection was sent by Mr. M. W. Dunscombe of Bristol, and a "projection apparatus" was the exhibit, shown in action, of a complete lighthouse apparatus of the fourth order by Messrs. Chance Brothers.

Of other classes of exhibits may be mentioned "Telescopes and Binoculars," "Photographic Apparatus," "Photometric Apparatus," and "Ophthalmic Instruments and Appliances." In the class devoted to optical measuring instruments some admirable work was exhibited by the Cambridge Scientific Instrument Company and by Messrs. Hilger. Instruments of special interest and novelty were shown by Professor Poynting, Professor Watkin, Mr. Marrow, and Mr. J. R. Milne of Edinburgh.

THE EPIDEMIC OF FAINTING AMONG SCHOOL-GIRLS AT CLOWNE, DERBYSHIRE.

DURING the past three weeks a curious epidemic of fainting has occurred among the girls in the council (elementary) schools at Clowne, a small coal-mining town in Derbyshire. Since last summer holidays the teachers have frequently observed something objectionable about the atmosphere of the class-room in which most of the cases occurred and from time to time solitary cases of fainting were noted. But suddenly a number of cases of fainting occurred, there being no less than 46 cases between May 17th and 22nd. The infants in an adjoining room were not affected. After the first 16 cases an escape of gas was noticed in the lobby. The leakage was stopped but on the next day eight other girls fainted. The school was closed from the Friday till the following Monday, but on resuming school fresh cases occurred. The school was again closed and the county council authorities were notified, with the result that Dr. S. Barwise, the county medical officer, went to Clowne and made an extensive investigation. The fainting fits lasted for a quarter to half an hour and were accompanied by shivers, spasms, and rigidity. The patients were left in a weak condition and many required to be assisted or to be carried home. We are indebted to Dr. Ferris of Clowne, a manager of the schools, for a copy of Dr. Barwise's first report.

County Offices, St. Mary's Gate, Derby, May 24th, 1905.

DEAR SIR,—I went over yesterday to the Clowne schools and examined the class-rooms which were involved in the attacks of fainting in the school. From the symptoms described to me by the teacher, Miss Chambers, and by the medical man who was called in to attend to the children, there can be no doubt that the attacks are either due to poisoning by carbon monoxide or have a nervous origin. If due to carbon monoxide the only cause which I could discover for the presence of this gas would be an escape of coal gas. There have been several minor escapes of coal gas through the school pipes but they were not, in my opinion, sufficient to cause the trouble. It is, however, possible that there is a leaky main in the street and that coal gas finds its way into the school through the foundations. I pointed this out to Mr. Elson, the surface manager of the Shire Oaks Colliery Company, who are the owners of the gas-supply, and he promised me that he would have the main examined. Mr. Elson also informed me that no water gas was mixed with the gas. I examined the heating apparatus and am of opinion that this is not to blame, although it requires some attention. I made the tests recommended by the Home Office for the presence of carbon monoxide but failed to find it. I have, however, left some mice exposed to the air and I will have their blood examined.

I found that the open fireplaces throughout the school have been stopped up. These should all be opened forthwith. I recommend that the class-rooms involved should be opened again as soon as the chimneys have been swept and the fires have been lighted. I would also suggest that the particular class room involved should be used for boys who are not so amenable to suggestive influence as girls. Pending the result of the examination of the mice which have been exposed to the atmosphere in the schools I recommend: (1) that the open fires should for the present be kept constantly burning while the children are in school; (2) that windows should be kept open; (3) that gas should be turned off at the meter; and (4) the hot-water apparatus should not be used.

It will not be necessary to use it while there are open fires. I find that the floor space has not been concreted and that the hot-water pipes are below the floor boards on one side of the room. The space under the school should certainly be concreted all over and the water pipes brought above the level of the floor. This is a matter, however, which need not be gone into until the summer holidays.

Yours faithfully,

E. A. Hall, Esq., Solicitor, SIDNEY BARWISE.
Clerk to the Clowne Council Schools, Eckington.

Mr. G. L. Godwin has been ill during the course of the epidemic, but he was kind enough to give our representative such information as was known. It appears that the mice were quite unaffected by the atmosphere of the class-room and Dr. Barwise has found no carbon monoxide in their blood. A test for excess of carbon dioxide in the atmosphere of the room gave a negative result. The floor was taken up and the gas-pipes were carefully examined but no leakage was discovered. The interesting experiment was tried of putting a class of boys into the room in question, but after three days no case of fainting occurred. Mr. Godwin is personally acquainted with each child that has been affected and is of opinion that most of the girls affected were among the poorest of the scholars who perhaps were not sufficiently fed. He considers that many of the girls were genuinely affected but that later other girls followed suit, either in imitation or from sympathy. It should be stated that the Clowne sanitary inspector, Mr. Bradley, has carefully examined the drains and so far has not detected anything wrong with the sewage arrangements. Some of the old people of the town have advanced a theory, based on their previous mining experience, that the epidemic may be due to "after-damp." It is a fact that a "fault" runs through the ground under the school and as the recent earthquake was distinctly felt in Clowne there is a possibility that there may be a leakage of "after-damp" due to this geological disturbance.

THE GERMAN SURGICAL CONGRESS.[1]

(*Concluded from p. 1456.*)

The Significance of Cryoscopy in Disease of the Kidneys.

Professor ROVSING (Copenhagen) expressed the opinion that the usefulness of cryoscopy had been overrated as a means of ascertaining the functional competence of the kidneys. The kidneys might be healthy even when the freezing point of the blood was from −0·60 to −0·67° C., and might act imperfectly when the freezing point was normal. The surest diagnostic method was, in his opinion, the estimation of the quantity of urea. When the quantity of urea was normal the kidney was healthy but it was not to be concluded from a reduction of the urea that the other kidney was disabled. The case was the same with the phloridzin test; all these tests were valuable when the indications were positive but were worthless when the indications were negative. Death from uræmia was according to his experience rather rare. Of 52 patients on whom nephrectomy was performed up to the year 1901 he had lost seven and of 60 operated on after 1901 he had lost only two, of whom one died from sepsis and the other from hæmorrhage. Tuberculosis of the generative organs and of the bladder was not a contra-indication against nephrectomy. In tuberculosis of the bladder he recommended irrigation by a solution of carbolic acid of 5 per cent. strength, which gave very good results. Ureteral catheterism should always be carried out for the purpose of confirming the diagnosis.

Professor ISRAEL (Berlin) agreed generally with Dr. Rovsing, saying that cryoscopy was not trustworthy because of the many exceptions to the inferences drawn from it. A considerable proportion of his patients would have died if he had abstained from any operation, deterred by the result of cryoscopic observations. The same was the case with the phloridzin test. The authors of these methods failed to distinguish between the essential competence of the kidney and a temporary impairment of its functions. He

[1] For this report we wish to tender our sincere thanks to the editor of the *Deutsche Medicinische Wochenschrift*, through whose courtesy it has been forwarded to us by our Berlin correspondent.

said that previously to the year 1901 the mortality among the cases under his care was 25 per cent., but since 1901 it had been 10 per cent., the cause of the difference being that the indications for operation were recently modified. Tuberculous cases in an early stage were now operated on as soon as possible but surgical interference was avoided in advanced cases.

Dr. CASPER (Berlin) opposed Professor Israel's views. He said that in order to obtain as uniform results as possible he was in the habit of making his cryoscopic examination two hours after a test breakfast.

Professor KÜMMELL (Hamburg) recommended that cryoscopy should be combined with ureteral catheterism.

Dr. KAPSAMER (Vienna) said that he preferred the phloridzin test to cryoscopy and the indigo-carmine reaction. The time required for sugar to make its appearance in the urine was of importance.

Dr. GÖZEL (Prague) reported that he was able to ascertain the presence of tuberculosis of the kidney by conveying the disease to guinea-pigs by inoculation of the suspected urine.

Prostatic Enlargement.

Professor CZERNY (Heidelberg) said that he did not consider early operation to be advisable in prostatic hypertrophy. The question whether the transvesical or the perineal method was the more trustworthy was rather doubtful. The perineal method, which often produced impotence, should be employed only in very advanced life.

Professor KÜMMELL said that he had tried all the operations recommended for the treatment of prostatic enlargement. He had performed Bottini's operation in 51 cases with two deaths immediately and nine deaths afterwards as a sequel to the operation; five patients were left unimproved, three were improved, and the remainder recovered. In 26 cases he had performed castration, the result being that two patients died, two were unimproved, two were improved, and the remainder recovered permanently. He now used the median or high incision by which the prostate was easily made accessible. When the perineal method was chosen the urethra must be opened, the bladder closed by sutures, and a catheter tied in.

Professor ISRAEL was opposed to suturing the bladder and recommended drainage through the perineum.

Dr. FREUDENBERG (Berlin) advocated Bottini's method as the surest and the least dangerous for the patient.

Dr. FRANK (Berlin) said that after Bottini's operation the edges of the prostatic flaps often united so that the result became doubtful.

Growths of the Bladder.

Professor REHN (Frankfort) reported a series of cases of cancer of the bladder occurring among operatives employed in aniline factories and especially one case in which metatases were present in the right ureter and the right kidney.

Dr. SCHWERIN, chief surgeon to the Hoechster Farbwerke, said that he had operated on four cases of cancer of the bladder in workmen of that factory but only one did not relapse. The post-mortem examinations did not show any alteration of the kidneys.

Dr. WEINRICH (Berlin) spoke in favour of the endo-vesical operation for growths of the bladder, malignant growths, of course, excepted. This method was especially suitable for papilloma. If the hæmorrhage was too profuse the operation must be interrupted and resumed at a later period.

Dr. STRAUSS (Frankfort) said that this method was not trustworthy because a papilloma might possibly have a cancerous basis.

Dr. KAPSAMER recommended the galvano-caustic operation for ulcerations of the bladder; in cancers of small size an endo-vesical operation might be performed.

Lipoma of the Fatty Capsule of the Kidney.

Dr. NEUMANN (Berlin) showed a retro-peritoneal lipoma of the fatty capsule of the kidney weighing 3·5 kilogrammes which he had removed from a boy three and a half years of age. After the removal of the growth, which weighed one-third as much as the patient's whole body, the descending colon was deprived of all its blood-vessels and accordingly was resected; the patient has recovered.

Injuries of the Lungs.

Professor GARRÉ (Königsberg) recommended the suture of pulmonary wounds for the purpose of obtaining quicker healing and avoiding infection. The lung must be made accessible by drawing it out through the wound and the divided edges were then brought together with deep sutures. Wounds in the neighbourhood of the hilus must be plugged. A loose plugging of the wounds was afterwards advisable, with deep drainage if required.

Professor KÖNIG (Jena) said that wounds of the lungs had a marked tendency to heal even without operative treatment.

Operations on the Skull.

Dr. STIEDA (Halle) gave a report of the examination of 31 patients operated on for fracture of the skull. In the clinic at Halle the opening in the skull was always closed as soon as possible, the result being an excellent one. The patients in whom primary implantation had been performed were all in good health, and so also were those who had been treated by Müller and König's osteoplastic operation. Epilepsy had developed in only one case. In secondary implantation the results were less satisfactory.

Professor KÜMMELL said that he had obtained good results by trephining in a case of purulent meningitis occurring after a fall from an electric street car. This was of importance, especially for the present epidemic of cerebro-spinal meningitis, as some cases might perhaps be saved by surgical intervention.

Professor FRIEDRICH (Greifswald) said that he had cured epilepsy by trephining. He was of opinion that the brain of epileptics was favourably influenced by Kocher's operation. He showed a patient who had suffered from dementia but had recovered after removal of a cerebral tumour.

Professor W. KÖRTE (Berlin) was elected President of the next Congress.

MEDICINE AND THE LAW.

A Question under the Diseases of Animals Act, 1894.

AT Stratford on May 27th a man named Lungley was fined £10 and costs for failing to give notice of a case of farcy glanders in the stables of a firm of builders' merchants, his employers. He had called in Mr. J. P. Lee, M.R.C.V.S., to inspect a horse suffering from a sore on the leg. Mr. Lee after examining the horse ordered that it should not be moved and two days later in the presence of Lungley and of another man, also summoned before the magistrates, applied the test for farcy glanders and found the case to be one of glanders. On the next day he called to confirm this decision and was informed that the horse had been slaughtered and the carcass removed. He at once communicated with the London County Council and with an inspector called upon the horse slaughterers implicated and at their premises identified the hide after some delay in obtaining inspection of it. Examination of the head and portions of the carcass by another veterinary surgeon established the case as one of farcy glanders. At the police court the fine inflicted upon the defendant named above was, as has been stated, for failing to notify the disease. The other man employed by the owners of the horse and two men named Orrocks, horse slaughterers, were charged with offences under the Act involved in the removal of the carcass and on their behalf defences were raised based upon the question of whether there was evidence that they knew what the horse had been suffering from and upon other matters which cannot be discussed while they are still under the consideration of the bench. The questions involved are of great importance from the point of view of the public health and it is to be hoped that they will be determined without delay so that if the law is defective it may be strengthened. Otherwise, apparently, a diseased animal can be removed, slaughtered, and its flesh distributed without interference from anyone in the interval which must necessarily elapse in any obscure case between the first onset of the disease when the veterinary surgeon may reasonably ask to be allowed to watch its development and the point at which the matter is formally placed on record as beyond doubt.

Christian Science and the Death of a Child.

An inquest was held recently at Twickenham upon the body of a child eight months old who had been allowed to die by her parents through the influence of Christian Science and under the encouragement afforded by a lady named Wilkins who, according to her own evidence, had been in the faith-healing business for eight years and was in the habit of receiving a guinea a week for her ministrations. A curious feature of the case and one which renders

the conduct of the parents more inexcusable lay in the fact that they at first summoned a medical practitioner, Dr. W. F. MacDonogh, who told them that their child was suffering from bronchial pneumonia, gave them directions as to treatment, prescribed, and when the father did not call at his surgery for the medicine offered to send it to the house. The mother apparently was chiefly instrumental in preventing this from being done. A lady, named King, who said that she was licensed to practise medicine in three States in America, was also summoned by the parents later when the child had become hopelessly ill, and she gave evidence to that effect. The father at the inquest professed his belief in Christian Science, and Miss Wilkins stated that she thought that death supervened because she had not sufficient faith in God and because she did not have the case entirely in her hands. This last reason presumably referred to the intervention of Dr. MacDonogh, some part of whose directions seem to have been followed. The jury returned a verdict in accordance with the medical evidence and requested the coroner to censure the father. In such cases when the possible verdict of manslaughter is not returned it is because the evidence is not conclusive as to death being due to the neglect of medical aid and as the parents may still be charged with a minor offence under the Prevention of Cruelty to Children Acts further comment would be out of place.

The Medical Man, the Coroner, and the Pathologist.

An inquest at Wandsworth, adjourned to May 29th from May 2nd by Mr. Troutbeck, has served to show in a somewhat marked manner the very undesirable results which may ensue from the policy adopted by this coroner, apparently without the concurrence of his colleagues, with regard to the making of post-mortem examinations within its jurisdiction. In the case in question a child, aged 17 months, had been taken by her mother, the wife of a labourer, to a medical man who had handed her a bottle of medicine. On the following day the child became very ill and the mother called in another medical practitioner, who came twice during the afternoon, and at 6.45 the child died. Neither of the two medical men who had seen the child during her illness was ordered to make the post-mortem examination, which, as usual, was intrusted to Dr. L. Freyberger. At the inquest the evidence of the second medical man showed that his opinion of the case from his observation immediately before the child died was that it was due to morphine poisoning and this was corroborated to the extent that the first medical man said that the medicine which he had prescribed contained morphine, although the dose he had ordered would have involved the taking of an infinitesimal quantity; but Dr. Freyberger knew nothing of the previous history of the case; he had not attended during life and the gentlemen who had done so, and one of whom according to law should have made the post-mortem examination, were under no obligation either to be present at the necropsy or to inform him upon the subject. Dr. Freyberger's evidence was to the effect that he had not detected any signs of morphine; whether he had made any special effort to do so does not appear from the report before us. Clearly, however, a medical practitioner making a post-mortem examination entirely in the dark as to the history of the deceased's last illness is at a considerable disadvantage. He is likely to be free from such influence as a preconceived opinion may exert; but is this of importance? No medical man in such a case, if his original diagnosis was not borne out by his examination of the body after death, would hesitate, or would have any reason to hesitate, in saying so. On the other hand, in some cases post-mortem observation alone may give the pathologist no clue which will lead him to form a correct opinion. In circumstances not difficult to imagine the natural refusal of the medical men of his district to support Mr. Troutbeck in his unusual, if not unique, position, may lead to a serious failure of justice. Meanwhile unpleasant and undesirable scenes take place and the coroner is betrayed into utterances which in calmer moments he probably regrets. Towards the close of the adjourned inquest under comment he is reported to have said that "It ought to be clearly understood that England was not going to be the only country in which pathologists were not employed." Does this mean that Mr. Troutbeck intends to reform England and to amend its Coroners Act without the aid of Parliament? The utterance quoted makes no reference to legislative interference. Has anyone ever suggested that pathologists should not be employed or, indeed, that they are not employed already where it is desirable that they should be? It has been said many times in the columns of THE LANCET that their employment, as Mr. Troutbeck employs them, is not sanctioned by the Act of Parliament under which he exercises his powers and by which alone he has authority to offer the payment of fees to witnesses at inquests. It has also been said that any alteration which may be made in the existing system must be made by the legislature, after the views of those who can speak with authority from a medical point of view have been heard and not by the act of a coroner or of a county council deliberately ignoring the law.

Liquozone.

Dr. W. Wynn Westcott, coroner for the North-Eastern district of the County of London, held an inquiry at Stoke Newington on May 26th into the death of an infant who had been dosed with liquozone. The father of the child said that his wife obtained a free bottle of liquozone, and that the deceased child having had half a teaspoonful out of it on Thursday, Friday, Saturday, and Sunday died at noon on Tuesday. Dr. F. J. Smith gave evidence that the child had come to his death through taking liquozone and the inquiry, which was adjourned until next Monday, June 5th, was described by a solicitor on behalf of the British Liquozone Company as being of vital importance to that company. We should think it was, especially as a second child who had been similarly treated has, we understand, since died. Liquozone, as our readers should know,[1] is a solution of sulphurous acid and if the British Liquozone Company recommends its imbibition for diseases of all sorts the company will have a good deal to answer for.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bath Urban District.—Dr. W. H. Symons thinks that pulmonary tuberculosis should be compulsorily notifiable but that the notification should be confidential. He suggests, however, that sufferers from this malady should be exempt from the operations of the Infectious Diseases (Prevention) Act. In our view it is of more importance that this disease should, if notifiable, be exempt from the penal clauses of the Public Health Act, 1875, and it was, we believe, only under these conditions that Parliament allowed the proposal for compulsory notification in Sheffield to become law. Section 45 of the Sheffield Corporation Act, 1903, provides that "no provisions contained in any general or local Act of Parliament relating to infectious disease shall apply to tuberculosis of the lungs or proceedings relating thereto under this section." Dr. Symons gives some interesting particulars relative to the open-air treatment provided by the board of guardians at Bath. He states: "Most of the cases notified to me are too far gone to be permanently restored to the ranks of the workers by a few weeks' open-air treatment, but they are taught how to treat themselves and how to live without being centres of infection." He then adds: "Dr. Craddock reporting to board of guardians states that since the open-air treatment was adopted at the workhouse Oct. 15th, 1903, to the present time 67 cases have been admitted. Of these, ten have been discharged cured, 22 had left while under treatment, 14 are still under treatment, and 21 have died; most of those who died were in a hopeless condition when admitted. The average cost of treatment is 15*s.* per week and the average stay in the infirmary 163 days for those who were cured; the average of all cases 60 days."

Borough of Aston Manor.—By way of reducing the chances of "return" cases of scarlet fever in connexion with the borough isolation hospital Mr. F. H. May endeavours to separate the acute and complicated cases from the convalescent and uncomplicated and, moreover, to give to each patient even a greater cubic space than the 2000 feet laid down by the Local Government Board. In addition to these precautions he also recommends the parents "to quarantine" their children on discharge from hospital for a period of at

[1] THE LANCET, May 13th, 1905, p. 1309.

least a month before they are allowed to mix with the rest of the family at home. This appears to us to be somewhat a counsel of perfection and one which in the homes of the poor is not very likely to be carried into effect. If the domestic circumstances were such as to necessitate the removal of the case to hospital in the first instance when the patient would be confined to bed it is extremely unlikely that a healthy child could be properly "quarantined" for a month in the same house. Probably a suggestion that the patient should not at once be put into a bed with a susceptible child would meet the difficulty and this is a practice which has been adopted at the London Fever Hospital for very many years.

County Borough of Blackpool.—Dr. F. J. H. Coutts utters a warning relative to the indiscriminate dispatch of consumptive patients to Blackpool. He observes that although early cases where there is no marked breaking down of lung tissue do well advanced cases with cavities are unable to stand the bracing climate and strong winds of Blackpool and grow rapidly worse. This suggestion as regards the need for discrimination in the selection or tuberculous patients might also with advantage be applied to sanatoriums. Not all patients do well at a sanatorium in an elevated and relatively exposed situation, whereas some patients make progress when sent from those elevated situations to an institution less exposed. Potted shrimps preserved with boric acid appear to have a large sale in Blackpool and in one instance this drug was found in an amount equivalent to 70 grains to a pound, which is much in excess of that necessary to preserve these shrimps, even in very hot weather. It is, indeed, debateable whether it is necessary to add any preservative whatever save in the case of Dutch shrimps which are sold as English. There were three cases of anthrax among cattle in the neighbourhood of Blackpool during 1904 and the circumstances connected with the cases demonstrated how very easy it is under existing conditions to send the meat of animals dead from anthrax to the butchers. In one case it was found that the milk of an infected cow was actually received in Blackpool on the day prior to the death of the animal and in another case the inspector on going to a farm at which a death from anthrax had taken place, or where an animal ill from the disease had been slaughtered, found a cart bearing the name of a Blackpool butcher ready to remove the carcass. On inquiring for the viscera of the animal the spleen was found to be missing and there had apparently been no time to procure another spleen to replace this diseased organ. These cases of anthrax gave rise to the death of a man who had helped to dress one of the carcasses and to an attack of malignant pustule in the case of two persons who had been brought in contact with the diseased tissues.

Borough of Kingston-upon-Thames.—Mr. H. Beale Collins expresses the opinion that with regard to pulmonary tuberculosis the great safeguard is to render the body resistant to the germ by physical training, by an open-air life, by rational food, and, above all, by strict temperance. He advocates, however, the restriction of spitting and the disinfection of houses in which tuberculous patients have died.

Chesterfield Rural District.—Dr. Herbert Peck reports that several cases of lead poisoning were brought to his notice during 1904 and he found on examination that they were genuine cases caused by the "plumbo-solvent" action of the public water-supply. Apparently the water shows no acidity when tested with lacmoid solution but it is clear that the passage of the water through lime does not suffice to counteract its "plumbo-solvency." The addition of sodium carbonate is, as Dr. Peck suggests, clearly indicated.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8641 births and 4371 deaths were registered during the week ending May 27th. The annual rate of mortality in these towns, which had been 15·4, 15·0, and 14·4 per 1000 in the three preceding weeks, rose again to 14·6 per 1000 last week. In London the death-rate was 14·6 per 1000, and it also averaged 14·6 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·2 in Hornsey, 7·2 in Willesden, 7·5 in King's Norton, 8·8 in West Hartlepool, 9·0 in Walthamstow, and 9·3 in East Ham, in Handsworth (Staffs), and in Cardiff; the highest rates were 18·9 in Liverpool, 19·8 in Merthyr Tydfil, 20·0 in West Bromwich, 20·4 in Rhondda, 20·5 in Wigan, and 20·8 in Smethwick. The 4371 deaths in these towns last week included 413 which were referred to the principal infectious diseases, against 469, 401, and 442 in the three preceding weeks; of these 413 deaths, 152 resulted from measles, 133 from whooping-cough, 38 from diphtheria, 37 from diarrhœa, 30 from scarlet fever, 23 from "fever" (principally enteric), but not any from small-pox. In Croydon, Hornsey, Brighton, Norwich, Rochdale, Burnley, York, Swansea, and in six other smaller towns no death from any of the principal infectious diseases was registered; while the highest death-rates from these diseases were recorded in Hanley, West Bromwich, Smethwick, Coventry, Warrington, Middlesbrough, Stockton-on-Tees, Tynemouth, Rhondda, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Bristol, West Bromwich, Smethwick, Warrington, Sheffield, Stockton-on-Tees, Rhondda, and Merthyr Tydfil; from whooping-cough in Tottenham, Hanley, Smethwick, Aston Manor, Grimsby, Bradford, Hull, Tynemouth, and Rhondda; and from diarrhœa in Wolverhampton. The mortality from scarlet fever, from diphtheria, and from "fever" showed no marked excess in any of the large towns. No fatal case of small-pox was registered last week in any of the 76 large towns. The number of small-pox patients remaining under treatment in the Metropolitan Asylums Hospitals, which had been 17, 17, and 15 at the end of the three preceding weeks, had further declined to ten at the end of last week; one new case was admitted during the week, against four, two, and three in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 2152, 2177, and 2211 at the end of the three preceding weeks, had declined again to 2200 at the end of last week; 312 new cases were admitted during the week, against 235, 319, and 319 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 256, 251, and 226 in the three preceding weeks, further fell to 218 last week, but were 30 above the number in the corresponding period of last year. The causes of 54, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Bradford, Hull, Newcastle-on-Tyne, and in 43 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Smethwick, Nottingham, Liverpool, Blackburn, Preston, Sheffield, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0, 19·5, and 16·7 per 1000 in the three preceding weeks, rose again to 18·1 per 1000 during the week ending May 27th and was 3·5 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·4 in Leith and 15·8 in Paisley to 21·0 in Dundee and 21·3 in Perth. The 606 deaths in these towns included 30 which were referred to measles, 24 to whooping-cough, seven to diphtheria, seven to diarrhœa, three to scarlet fever, and three to "fever." In all 74 deaths resulted from these principal infectious diseases last week, against 67, 83, and 76 in the three preceding weeks. These 74 deaths were equal to an annual rate of 2·2 per 1000, which was 0·8 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 16, 32, and 26 in the three preceding weeks, rose again last week to 30, of which 21 occurred in Glasgow and seven in Edinburgh. The deaths from whooping-cough, which had been 30 and 25 in the two preceding weeks, further declined to 24 last week, and included 10 in Glasgow, five in Edinburgh, and four in Greenock. The fatal cases of diphtheria which had been four, six, and three in the three preceding weeks, rose again last week to seven, of which five were registered in Edinburgh and two in Glasgow. The deaths from diarrhœa, which had been 15, nine, and 19 in the three preceding weeks, declined again to seven last week, and included three in Glasgow and two in Edinburgh. The fatal cases of "fever," which had been three, four, and two in the three preceding weeks, rose again last week to three, and included two, one of which was a case of typhus, in Glasgow. The

deaths referred to diseases of the respiratory organs in these towns, which had been 132, 108, and 83 in the three preceding weeks, rose again last week to 107, and were 22 in excess of the number in the corresponding period of last year. The causes of 21, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·0, 23·7, and 19·5 per 1000 in the three preceding weeks, further declined to 18 9 per 1000 during the week ending May 27th. During the past four weeks the death-rate has averaged 21·0 per 1000, the rates during the same period being 14·5 in London and 16·9 in Edinburgh. The 138 deaths of persons belonging to Dublin registered during the week under notice were four below the number in the preceding week and included four which were referred to the principal infectious diseases, against eight, eight, and six in the three preceding weeks; of these, one resulted from measles, one from diphtheria, one from whooping-cough, and one from "fever," but not any from small-pox, scarlet fever, or diarrhœa. These four deaths were equal to an annual rate of 0·6 per 1000, the death-rates last week from the principal infectious diseases being 1·4 in London and 3·1 in Edinburgh. The 138 deaths in Dublin last week included 27 of children under one year of age and 37 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a decline from the respective numbers recorded in the preceding week. Seven inquest cases and five deaths from violence were registered; and 61, or more than two-fifths, of the deaths occurred in public institutions. The causes of seven, or more than 5 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon J. M. France to the *Emerald* to join the *Carnarvon* on relief. Staff Surgeons: H. P. Jones to the *President*, for three months' course at Adelaide Hospital, Dublin; N. I. Smith to the *Hermes*; and R. H. Mornement, to R.M.A. Headquarters, Portsmouth. Surgeons: W. N. Horsfall to the *Ariadne*; P. D. Ramsay to the *Juno*; B. Scribner to the *Shearwater*; and F. F. Mahon to the *Pioneer*.

The undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet:—Hugh Prideaux Turnbull, Walter Byron Maurice, Sidney Roach, Eustace Arkwright, Walter Kempson Hopkins, Harold Edgar Fryer, Samuel Conner, and Robert Harry Mornement (dated May 25th).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel H. S. McGill is appointed to the Eastern Command for duty.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement from the service of the undermentioned officer:—Colonel Charles Little (dated Feb. 12th, 1905).

ROYAL ARMY MEDICAL CORPS (MILITIA).

Supernumerary Lieutenant (Honorary Lieutenant in the Army) J. W. Hopkins to be Captain and to remain seconded (dated Feb. 26th, 1905).

IMPERIAL YEOMANRY.

Yorkshire Dragoons (Queen's Own): Surgeon-Captain P. B. Mackay to be Surgeon-Major (dated May 27th, 1905).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: Surgeon-Lieutenant N. Davidson resigns his commission (dated May 27th, 1905). *Rifle:* 3rd Lanarkshire: Surgeon-Lieutenant A. Roxburgh to be Surgeon-Captain (dated May 27th, 1905). 1st Surrey (South London): Captain and Honorary Major Charles Joshua Joseph Harris (late the Pembroke Royal Garrison Artillery (Militia)) to be Surgeon-Lieutenant (dated May 27th, 1905). 2nd Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant W. M. Mackay to be Surgeon-Captain (dated May 27th, 1905).

ARMY MEDICAL SERVICE.

An examination of candidates for not less than 40 commissions in the Royal Army Medical Corps will be held on July 27th and following days. Applications to compete should be made to the Secretary, War Office, 68, Victoria-street, London, S.W., not later than July 17th, on which date the list will be closed. Candidates who are over the regulation limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after Oct. 1st, 1899, that they could reckon towards retired pay and gratuity if such deduction will bring them within the age limit. The presence of candidates will be required in London from July 25th.

THE MEMORIAL TO THE ROYAL ARMY MEDICAL CORPS.

As we announced briefly last week, His Majesty the King unveiled the monument to the officers and men of the Royal Army Medical Corps who fell in the Boer war. This ceremony was appropriately performed on Empire Day, May 24th, the anniversary of the birth of Queen Victoria. After witnessing a sham fight, His Majesty, who was accompanied by the Duke of Connaught, drove to the headquarters of the Royal Army Medical Corps at Aldershot, where he was received by Bishop J. Taylor Smith (Chaplain-General), the Rev. P. F. Raymond (Chaplain to the Forces), Surgeon-General A. H. Keogh, C.B. (Director-General of the Army Medical Service), Surgeon-General Sir W. D. Wilson, Colonel A. T. Sloggett, C.M.G., Lieutenant-Colonel G. M. Robinson (commanding the R.A.M.C. Depôt), Lieutenant-Colonel W. Babtie, V.C., C.M.G., Lieutenant-Colonel R. J. S. Simpson, C.M.G., Major F. J. Greig, Major R. J. C. Cottell, Mr. Goscombe John, the sculptor, Mr. Weir Schultz, the architect, Surgeon-General W. H. Macnamara, C.B., C.M.G., Lieutenant-Colonel J. M. Irwin, and Colonel C. E. Heath. The following address was then read by Surgeon-General Keogh: "May it please your Majesty,—The memorial, which your Majesty is graciously about to unveil was erected by the officers, warrant officers, non-commissioned officers, and men of the R.A.M.C. to the memory of their comrades who were killed in action or died of disease in the South African war. In this memorial 21 officers and 293 non-commissioned officers and men are commemorated." Following a prayer, read by the Chaplain-General, the King unveiled the memorial and addressing those present said: "I have had great pleasure to-day in unveiling at your wish this memorial in remembrance of those gallant officers and men of the Royal Army Medical Corps who fell during the recent campaign or by disease. I am well aware of the valuable services which medical officers rendered to their country and to the sick and wounded during that arduous campaign and I feel sure that they will often now and in the future excel, if it is possible, in those duties. It has given me great pleasure, and, I may say, melancholy satisfaction, to unveil this monument to-day."

REGIMENTAL HOMES AT BODMIN.

The foundation stone of two Regimental Cottage Homes for men of the 1st and 2nd Devon and Cornwall Light Infantry has just been laid at Bodmin (Cornwall) by the Bishop of Truro in the presence of a large gathering. The houses, which will accommodate two men of the regiment with their families, will be erected at a cost of £1250, which sum was subscribed during the recent South African war. The site has been given by Viscount Clifden.

THE WAR IN THE FAR EAST.

The attention of the whole civilised world may be said to be concentrated at the present time on the stupendous events that have been taking place in the Korean Straits involving the destruction of the Baltic fleet and a naval disaster on an altogether unprecedented scale to the Russians. It is almost impossible to refrain from making some allusion to Admiral Togo's achievements, but such matters do not come within the purview of the medical journalist. We may all be permitted to hope, however, that an end is approaching to this war, for it is terrible to think of the enormous sacrifice of life and of the millions of money that are lost in a very brief time in a naval battle. Even apart from the marvellous success of the Japanese in this war, which has throughout been planned and conducted by them with what may be rightly termed scientific precision, it may be truly said that there is nothing to compare with the recent growth, progress, and development of Japan in the history of the evolution of nations. It is, of course,

hopeless to expect at the present moment any account of the naval medical preparations and arrangements on the part of the belligerent fleets.

As regards the land forces there is nothing important to be chronicled. Continuous heavy rains are reported in Manchuria and serious military operations are stated to be greatly impeded owing to the state of the roads.

Prince Vassiltchikoff, executive officer of the Red Cross Society at the front, telegraphs that the chief want of the society's service is in means of transport and he pleads that all efforts should be directed to supplying two-wheeled carts and horses. He recommends a trial to be made of the carrying system of the Japanese.

The *Army and Navy Gazette* states that the German Emperor has sent to Lieutenant-Colonel W. G. A. Bedford, C.M.G., R.A.M.C., the officer in charge of the Military Hospital at Gibraltar, four pictures representing the several types of the German Cavalry and Infantry in different periods. These pictures are to be hung in the hospital as a souvenir of His Majesty's recent visit to the institution.

Correspondence.

"Audi alteram partem."

THE NATURE OF DIABETES MELLITUS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of May 27th, p. 1459, Dr. Arnold Lorand replies to one point raised by Dr. W. C. Bosanquet in his interesting Goulstonian lectures on the Nature of Diabetes Mellitus. I have been hoping that someone would discuss some of the more general questions involved, for it seems to me that certain of Dr. Bosanquet's hypotheses present serious difficulties from the physiological standpoint. In discussing alimentary glycosuria he says:[1] "It is fairly established that a certain proportion of starchy food is converted into sugar in the alimentary canal." And further on:[2] "Over-production of sugar may depend on some digestive irregularity whereby more sugar than normal is poured into the blood." Surely the first quotation understates the facts. In what form other than sugar *is* the starchy food absorbed? Is it not the case that the whole of the absorbed carbohydrates (with the possible exception of galactose and lævulose) pass into the portal vein as dextrose? It is difficult to see how some digestive irregularity could increase the normal process of absorption. Even if "it is not impossible that the lungs may act as the mechanism in liphæmia for removing excess of fat from the blood, a process of oxidation taking place within them" (p. 1055), all the evidence we possess is strongly against such a hypothesis. The seat of oxidation is the tissues and not the lung capillaries, as Ehrlich showed by his methylene blue experiment. It is interesting to find that Dr. Bosanquet has noted conditions in which the alveolar structure of the pancreas is lost in certain areas and approximates to that of the cell islets. He concludes this is a post-mortem change but Dale has been able to produce similar changes experimentally by the injection of secretin, which points to their having some definite significance.

Arguing from the inhibition of salivary secretion from fear, Dr. Bosanquet suggests an analogous cause for diabetes from shock in the drying-up of the internal secretion of the pancreas. But in this gland any nervous control for secretion is still to be proved and Baylis and Starling have shown that its activity can be evoked by purely chemical stimuli under conditions excluding all nervous factors. He reviews the suggestions that have been made as to a joint action of the pancreas with some other organ in the regulation of sugar metabolism. But he does not discuss the muscles, which in view of the importance of carbohydrate as a source of energy might play some part in this. Otto Cohnheim found that whereas pancreatic and muscle extracts separately have no glycolytic action mixtures of such extracts have a powerful action; he concludes that muscle contains a zymogen or inactive ferment which is activated by the internal secretion of the pancreas. We can hardly admit that "the peculiar effect of the secretion of the suprarenal body in producing glycosuria must be attributed to its action on the internal secretion of the pancreas" (p. 1053). Von Mering and Minkowski found that removal of the pancreas in ducks and geese failed to produce diabetes, yet Noel Paton was able to produce glycosuria in these animals by injection of adrenalin.

Perhaps the most novel point in the lectures is the view that fat is the source of the sugar in the urine. Since carbohydrate is a fat-forming food there is certainly no *a priori* reason against the reverse change occurring. But in support of his hypothesis he mentions the liphæmia and the accumulation of fat in the skin, kidneys, and muscles in diabetes. I confess I fail to see how if the fat is rapidly disintegrating into sugar and acetone it can accumulate in the tissues. The definite ratio between the excretion of carbon and nitrogen, which has been observed both in the disease and experimental diabetes, is surely best explained by the origin of sugar from proteid. That proteid can give rise to sugar is shown by the fact that phloridzin will cause glycosuria in starving animals in which there is no fat left. One can quote Dr. Bosanquet against himself on this point: "We must not lightly suppose the existence of two separate chemical reactions leading to one and the same result until it is shown that neither one alone is sufficient to explain the phenomenon." Reversing his question it may be asked: "If some of the sugar is formed from proteid, may not it all be thence derived?" Lépine's statement (uncorroborated so far as I am aware) that the sugar in the urine may be too great to have come from the food or the proteid tissues seems a slender basis on which to build up the contrary hypothesis.

I am, Sirs, yours faithfully,

W. LANGDON BROWN.

Finsbury-square, London, E.C., May 27th, 1905.

[1] THE LANCET, April 8th, 1905, p. 905.
[2] THE LANCET, April 22nd, 1905, p. 1068.

THE SANATORIUM TREATMENT OF CONSUMPTION: IS IT WORTH WHILE?

AN ANSWER FROM THE DURHAM COUNTY SANATORIUM.

To the Editors of THE LANCET.

SIRS,—On April 30th last the committee of the above sanatorium instituted its annual inquiry through Dr. J. Gray, its medical officer, as to the condition of all the patients who had been treated in, and discharged from, the sanatorium during the previous five years. The following is a summary of the present condition of the patients.

1. *Cases who had on admission consolidation only of the lungs, i.e., early cases.*—In 1900–01 16 cases were treated; 14 were enabled to return to work; of these 12 are still at work after more than four years and 4 are dead. In 1901–02 30 cases were treated; 23 were restored to work, 17 are now at work and have been so between three to four years, 5 are at home, and 8 are dead. In 1902–03 41 cases were treated and 30 had their working power restored; 23 of these have been following their occupations between two and three years, 4 are at home, and 14 are dead. In 1903–04 59 cases were treated; 46 were restored to work (and have been at work between one and two years), 11 are at home, and 7 are dead. In 1904–05 75 cases were treated; 57 were restored to work (all of these are still at work), 15 are at home, and 3 are dead. Totals: Of 221 early cases treated 170 were restored to the ranks of workers, 150 are still at work, 35 are at home, and 36 are dead.

2. *Advanced or cavity cases.*—In 1900–01 20 cases were treated and 9 returned to work; 3 are, and have been, at work more than four years, 1 is at home, and 16 are dead. In 1901–02, of 25 cases treated 12 were returned to work; 4 of these have been at work between three and four years, 4 are at home, and 17 are dead. In 1902–03, of 38 cases treated 23 were enabled to return to work; 9 have been at work between two and three years, 11 are at home, and 18 are dead. In 1903–04, of 39 cases treated 16 were restored to work; 10 of these have been at work between one and two years, 7 are at home, and 22 are dead. In 1904–05 37 cases were treated and 14 were enabled to work; all of these are still at work, 18 are at home, and 5 are dead. Totals: Of 159 cavity cases 74 were restored to the ranks of workers; 40 are at work, 41 are at home, and 78 are dead.

Remarks.—Practically all the patients (men and women) belong to the working classes. A very large percentage went back to insanitary and poor homes; hence relapses, especially among the advanced cases, are common and to be expected. Almost all the cases had definite physical signs of lung disease, more than half had disease in both lungs,

and many were complicated cases; all but a very few were unable to work on admission. Our great difficulty has been to get working-class patients to apply in the initial stage of the disease and to find them suitable work afterwards. The average age of the patients was about 28 years, the average stay in the sanatorium was 15 weeks, the average gain in weight was about 18 pounds, and the average cost per patient per week was approximately 25s. Our sanatorium has been practically self-supporting from the beginning and we have enabled the working men of this county to provide for themselves and those over the age of 15 years depending upon them sanatorium treatment, should they require it, at the nominal cost of 1s. per year per man. We are fully satisfied with the excellent results obtained.

I am, Sirs, yours faithfully,

W. ROBINSON,
Chairman of the Committee.

May 27th, 1905.

MORPHINE AND CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—It has been recognised almost from the introduction of chloroform by those intimate in its administration that patients who were under the immediate influence of morphine or opium required less of the vapour of chloroform and a shorter time than those who were not under its benign influence to produce insensibility. In fact, by some the preliminary administration of morphine has been recommended, and although I am personally adverse to it as a point of routine it is not unreasonable to admit that some patients would be benefited by it. As a matter of experience it is not advisable to give it before the administration of nitrous oxide gas, and any medical man who happens to know that his patient is taking opium at the time of an intended administration should inform the administrator for the sake both of the patient and all concerned. Through this inadvertence one of my patients determined never to have "gas" again.

Some years ago I was requested by the late Dr. J. Braxton Hicks to administer chloroform to a patient who had been cured of the habit of the *piqûre* to the amount of 23 grains of morphine in the day. Although I anticipated some incidental difference there was none and unless I had known I should have classed the case as normal. A little time ago I was asked by Dr. H. H. Murphy of Twickenham to administer chloroform to a patient under cure in a home for the same trouble. It was not known to what extent the poor fellow had used the syringe, but he had been reduced whilst under treatment to 41 grains of morphine in the 24 hours, and it was whilst under this amount that I gave him the vapour of chloroform. There was nothing to observe except, as in the former case, an entire absence of the falsely called "excitement stage" and I was more occupied with the fact that he was fat and therefore might show some abnormality. He suffered from three rather extensive abscesses. The first case, it will be seen, was cured of the habit and the second had been much reduced in quantity. When it is supposed to represent 287 grains of opium, I think the last case deserves recording.

I am, Sirs, yours faithfully,

TOM BIRD,
Consulting Anæsthetist to Guy's Hospital.

Brook-street, W., May 23rd, 1905.

GALL-STONES AND CANCER.

To the Editors of THE LANCET.

SIRS,—The late Dr. G. R. Slade, in a paper entitled "Gall-stones and Cancer," and published shortly before his death in THE LANCET of April 22nd, 1905, quoted cases to show that many of the thickened gall-bladders found in association with gall-stones are carcinomatous. The first thickened gall-bladder which I had an opportunity of examining after having read Dr. Slade's interesting paper proved to be carcinomatous. The patient was admitted into this hospital under the care of Mr. Stanley Boyd, to whom I am indebted for permission to record the case. The case is that of a woman, aged 40 years, who had had symptoms suggesting the presence of gall-stones for 12 months. She had lost flesh considerably since her arrival in England from abroad but she states that her visits to England have always been accompanied by loss of weight. At the operation two gall-stones were found impacted in the neck of the gall-bladder which was kinked. The gall-bladder was removed, not because it was thought to be carcinomatous but because cholecystectomy was considered to be the most satisfactory method of dealing with the case. The gall-bladder was uniformly thickened to a moderate degree. The liver showed no sign of secondary growths. Microscopical examination of the wall of the gall-bladder revealed the presence of columnar-celled carcinoma.

I am, Sirs, yours faithfully,

H. A. T. FAIRBANK,
Surgical Registrar.

Charing Cross Hospital, May 31st, 1905.

CANCER BODIES AND REPRODUCTIVE TISSUES.

To the Editors of THE LANCET.

SIRS,—May I draw the attention of Professor J. B. Farmer and his colleagues to the fact that in my Erasmus Wilson lectures on the General Pathology of Tumours[1] I drew attention to the close resemblance between cancer bodies and the archoplasmic structures found in the spermatocytes of the guinea-pig and at the lectures I showed lantern slides in illustration of this resemblance. My attention was drawn to this subject by the paper by Borrel.[2] I did not publish my observations in more detail at the time because I was hoping to continue my researches on the cytology of tumours and publish them when they were more complete. Unfortunately, I left Leeds soon after I delivered the lectures and have not had time since then to continue my work on the subject.

I am, Sirs, yours faithfully,

CHARLES POWELL WHITE.

St. Thomas's Hospital, S.E., May 27th, 1905.

VISIT OF BRITISH PHYSICIANS AND SURGEONS TO PARIS.

(FROM ONE OF OUR SPECIAL COMMISSIONERS)

PRIVATE HOSPITALITY.—THE BRITISH LADIES.—LUNCH TO THE MEDICAL PRESS.

A FEW words yet remain that should be added to the lengthy description already published in THE LANCET of the great reception given in Paris to the British physicians and surgeons. Without attempting to notice the whole series of private receptions held by French medical men in their own homes, it is necessary that fuller mention should be made of the hospitality by the president and the vice-president of the reception committee. The former, Professor Bouchard, being anxious to invite everybody concerned, was compelled to hire a large hall near the Champs-Elysées known as the Salle Washington. Then, as there were many dinner parties on the same evening—namely, May 11th—the reception did not commence until after 10 o'clock. The "*tout Paris*" of medicine was there as was nearly every British guest. The big hall was very crowded by animated, interested, and interesting guests. On the same evening Dr. Lucas-Championnière, the vice-president, had entertained to dinner at his private residence Sir William and Lady Broadbent and a number of other British visitors. On the following day he gave another dinner. The British visitors had thus an opportunity of seeing something of the domestic life and household management which in Paris differs considerably from English customs. But, above all, they had an insight into the artistic refinements of that life which, combined with the presence of unfailing amiability, and the absence of any sort of affectation or stiffness, make Parisian society exceptionally attractive.

In this respect we have been especially requested by several British ladies who accompanied their husbands on this ever-memorable visit to say a few words on their behalf. They are desirous to make known how deeply touched they have been by the extraordinary attention and kindness bestowed upon them by the French ladies. This was not a question merely of parties, dinners, and entertainments, but of daily and indeed hourly watchfulness and friendship; of advice and help or guidance constantly given, however petty the detail or the incident by which it was evoked. It was not so much the brilliant entertainment as the sisterly welcome which the British ladies found awaiting them that has produced so deep an impression and evoked lasting gratitude. The British ladies were never allowed

[1] THE LANCET, Feb. 15th (p. 423) and 22nd (p. 491), 1902.
[2] Annales de l'Institut Pasteur, February, 1901.

time for a single dull moment. Those among them who could not speak French were allotted lady hostesses who could speak English and were never left alone or without attention. Minute details were not neglected. From the first, and though strangers in a strange land, the British ladies were made to feel thoroughly at home. With unfailing foresight and sisterly concern their French hostesses saw to all their requirements and were ever in attendance ready to escort their British visitors everywhere and at all moments. Then there were all manner of pretty compliments and flowers and the delicate bonbons for which Paris is so renowned forthcoming at propitious moments. Altogether the British ladies who participated in the visit to Paris and the subsequent excursions find it difficult to express their appreciative gratitude and have asked us to help them to give voice to their feelings.

Another private entertainment to which allusion may be made was the lunch given on May 13th by Dr. R. Blondel in honour of the medical press. On this occasion the English custom of toasts was introduced and Dr. Blondel rose at dessert time to propose "The Representatives of the Medical Press" which had so largely contributed to bring about the *entente cordiale* between France and England. He referred especially to THE LANCET and the *British Medical Journal* and regretted that the editors of those journals were unfortunately unable to be present that evening. He desired to thank them for having helped in the work of organising the International Association of the Medical Press. The British medical press owed its strength to the fact that it consisted of so few journals, whereas in other countries the influence of the medical press was weakened through being scattered over so many and therefore necessarily smaller publications. However, all had alike contributed to the work of peace. For this good cause they had welcomed in Paris the Sovereign of England and the representatives of the sovereign science. To-day, in his own house, he had the pleasure of assembling distinguished journalists and authors who typified the alliance of medical science with literary art. He therefore raised his glass and drank to the medical press and to the long continuance of friendship between the two countries. Mr. Adolphe Smith responded. He pointed out how in politics the cause of peace and in literature the cause of science were indebted to Dr. Blondel. To-day much was said about the closer and more friendly relations existing between England and France; but Dr. Blondel was drawing together all the civilised nations of the world by uniting in one vast organisation the medical press not only of England and France but of all countries. By association a better understood and more generally accepted sense of what was right and honourable would be engendered and cultivated. A very great debt of gratitude, therefore, was due to Dr. Blondel for the initiative he had taken and also to Madame Blondel for the way in which she had helped in the good work, rendering her husband's task more easy by the gracious welcome which she gave to all his friends and co-workers. He therefore drank to Dr. Blondel, the general secretary of the International Association of the Medical Press, and to Madame Blondel.

Dr. G. H. F. Nuttall, editor of the *Journal of Hygiene*, said a few words concerning the wonderfully hearty reception which the British visitors had received. Then he alluded to the forthcoming International Congress on Tuberculosis and expressed the hope that there would be a strong British contingent. He was pleased to think that the press had helped to bring about cordial friendship between the two peoples.

Mr. L. E. Creasy, editor of the *Clinical Journal*, and Dr. Leonard Williams, editor of the *Journal of Balneology and Climatology*, were also among the guests. Several French authors and journalists were present to meet their British colleagues, amongst them being Dr. Albert Robin, editor of the *Bulletin Général de Thérapeutique*; Dr. Emile Boix, editor of the *Archives Générales de Médecine*, a journal that is junior to THE LANCET by only two years; Dr. F. Galezowski of the *Recueil d'Ophthalmologie*; and Monsieur F. Alcan, the medical publisher.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

University Intelligence.

THE Lord Chancellor this year accepted the invitation of the Guild of Undergraduates to become its warden. He attended a fortnight ago to deliver his address which was listened to by a large and distinguished audience, including the Chancellor of the University, the Chancellor of the Exchequer, Lord Avebury (a past Warden), and Mr. Haldane, M.P. After paying a warm tribute to Mr. Chamberlain and after saying how fortunate the University should consider itself in having so distinguished a man for its chancellor he reminded his audience that in early days the word "university" meant an exactly different thing from what it meant now. What it then meant was a place where everyone might go; whereas Mr. Chamberlain's definition of a modern university was that it was a place where everything was taught. The leading line taken in the address was that English universities must rival more the continental universities in teaching the application of new discoveries to trade processes. He lamented, however, the fact of there being no chair of Greek in the University. Mr. Chamberlain, in proposing a vote of thanks to the Lord Chancellor for his address, shared in his regret that there was still no such chair but said that the chief work of their University was the teaching of science and that the buildings now rising would, when completed, constitute opportunities for such work that no university has, or has had, in this country before and that they will be on a scale and of a quality unequalled by any university in America or on the continent.—Dr. R. Saundby, professor of medicine in the University, began a short time ago a course of four lectures to students and practitioners on Medical Ethics, a subject upon which he is an acknowledged authority. He pointed out that medical ethics went back further than the Hippocratic oath, that they were known in the time of Hammurabi, King of Babylon, more than 2000 years B.C. The relations of the medical man to his patient, to the legal authorities, and to his fellow medical men have all been admirably and lucidly explained. The lectures, two of which have still to be delivered, have been attended by large and appreciative audiences.

The Education Rate.

The education rate, which has been steadily rising and which of late years has increased with astonishing rapidity, is occasioning considerable anxiety. This year the total sum asked for was £209,710 but upon its being sent back for revision the demand was reduced to £204,901—a rise, however, of £31,000 over that of the previous year. The increase in expenditure is attributed to payments made by the committee to the University, to its being responsible for the technical school expenditure, to the foundation of special schools for the blind, deaf, cripples, and feeble-minded, and to the increased salaries which are now being paid to teachers.

The Feeble-minded.

A site—Monyhull Hall, King's Heath—has been purchased by the joint committee of the Birmingham, Aston, and King's Norton Poor-law authorities for the accommodation and treatment of feeble-minded and sane epileptics. It occupies 128 acres and has cost £13,500. The importance of founding colonies for such unfortunates where they may be permanently looked after was well evidenced in the annual report of the Birmingham Laundry and Homes of Industry for Feeble-minded Young Women. It was there stated that of the 52 girls who had left and whose "after history" was traced only two or three seemed to be doing well and earning their own living.

Lunatic Asylums Committee.

Some dissatisfaction has arisen over the communication from the lunatic asylums committee to the local boards of guardians giving notice that from July 1st the charge for patients chargeable to the boards will be increased from 10*s.* 6*d.* to 11*s.* 1*d.* a week per patient. The cause of the rise is said to be the expenditure of Hollymoor Asylum.

The Health of Birmingham.

The report of the medical officer of health for the first quarter of the present year has just been issued. It shows a low birth-rate of 31·6 per 1000, as compared with 33·5 for the first quarter of 1904. The death-rate of 16·8 per 1000 is the lowest on record. For the same period last year the rate was 21·4. Eight cases of small-pox were notified; they were all traceable to one lodger, so that there has only been one importation. Small-pox has again reappeared in the city after a brief freedom from it. There are at present four patients suffering from it in the isolation hospital.

May 30th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Re-housing Problem: Health of Liverpool.

Mr. F. H. Tulloch, Local Government Board inspector, attended at the municipal offices on May 23rd to examine the Liverpool corporation's schemes for the erection of new artisans' dwellings in four Liverpool streets. Mr. Cripps, assistant solicitor to the corporation, explained that the schemes submitted were for fulfilling the obligations of the corporation under the several housing clauses and provisional orders. The policy of the corporation had been not to pull down any buildings before erecting others for the dispossessed tenants. Some houses were demolished in Christian-street without a scheme for re-housing being submitted to the Local Government Board. As this was an oversight, and although thereby the corporation was liable to considerable penalty, he asked the Board to exculpate it because a street improvement had been effected and there were plenty of vacant houses even at the present time in the half-mile radius. Out of 1720 dwellings built by the corporation 180 were vacant. A return prepared at the beginning of the year by the head constable showed 4293 vacant houses in the city, of which 1145 were houses of 5*s.* a week rent and under. This was to be explained by the fact that the electric tram system and cheap fares attracted the labouring class to reside in the suburbs. During the last four years over 2000 of the working-class houses had been built chiefly on the outskirts of the city. The corporation surveyor explained the character of the dwellings proposed to be built in the streets previously mentioned. Dr. A. A. Mussen, the assistant medical officer of health, gave a census return of the vacant houses in the localities in which the schemes were to be carried out. The remarkable fact was that during the past few years the number of common lodging-houses in the city had decreased by 50 per cent. The inspector will in due course report to the Local Government Board, who will decide on the number of dwellings to be erected to re-house dispossessed tenants.—During the past week 511 births and 240 deaths were registered in Liverpool, representing a birth-rate of 36·3 per 1000 and a mortality of 17 per 1000. In the corresponding week of last year the death-rate was 18·4 per 1000. Of 652 cases in the corporation infectious hospitals 488 patients were suffering from scarlet fever and seven from typhus fever. The chairman of the health committee referred at the meeting with satisfaction to the prevailing low death-rate.

Winwick Asylum: Acute and Dangerous Types of Lunacy.

A recommendation that a further sum, not exceeding £30,000, as may be necessary for extras and to complete the asylum buildings at Winwick should be granted out of the asylums fund was contained in the report of the finance committee and laid before the Lancashire Asylums Board at its meeting at Preston. Certain things were left out in connexion with the building operations which had to be done to make the building satisfactory to the committee. The chairman said that the whole cost of the asylum would be about £45,000, which did not appear to be excessive. A letter was read from the Commissioners in Lunacy with reference to allowing Winwick Asylum to be used for acute cases. It stated: "That having regard to the very large number of troublesome, turbulent, and dangerous cases that were found in the asylum at the annual visit in February last, the Commissioners felt unable to withstand any longer the wishes of the board that the asylum should not any longer be reserved for chronic cases." In connexion with this matter the chairman said that it had been agreed that it would be desirable to build an asylum on the villa system and on a cheaper scale something like a workhouse, where chronic cases who were unable to take care of themselves and who were unable to work but did not require the same skilled medical care as acute cases which went to the asylums, should be lodged. It was for the board to consider whether it could not devise a scheme for building a cheaper class of asylum where such patients could be maintained at a much less cost to the ratepayers. Eventually a motion was carried to the effect—

That as the restriction as to the using of Winwick Asylum for chronic cases only has now been removed it will be desirable to consider the advisability o utilising the proposed site at Whalley for an asylum of cheap construction to accommodate cases other than of the acute and dangerous types.

It was also decided to empower the Whalley committee to communicate with the various boards of guardians on the subject.

Hospital Saturday Fund.

The honorary treasurer has issued the first list of the contributions from the employés of a number of workshops, &c., to the Hospital Saturday Fund, which amounted to £5390 6*s.* 7*d.* The second list will be published on July 3rd.

May 30th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The University of Leeds: Commemoration of the Inauguration.

BY request of the council of the University of Leeds a special number of the *Gryphon*, which is the journal of the University, has been issued in commemoration of the inauguration which took place last October. The special committee which was charged with the responsibility of editorship is to be congratulated on having produced what all will regard as a worthy memorial of a great and important event. In the letterpress we find the address of the Chancellor, Lord Ripon, at the first meeting of the University Court which lays down a high ideal of the work which should be aimed at; following this is a brief account of the first congregation, on which occasion the first honorary degrees were conferred, and the orations delivered by those presenting the graduates are given in abstract. The speech of the Duke of Devonshire, though, as His Grace remarked, "to some extent a departure from the ordinary course of academic procedure," deserves to be given in full as it is. From this speech I quote the following passages: "I observe that in your new constitution as defined by your charter and your statutes a remarkable and exceptional share of the government of this University has been entrusted to the representatives of local authorities in Yorkshire. I believe that in this a wise course has been taken, because it is of the first importance that from the outset a wide popular interest should be taken in the studies and work of this infant University. And I am at the same time sure that the good common-sense which distinguishes Yorkshiremen will lead them to entrust a great share of the direction of the studies and work of this University to those who have qualified themselves for that direction by educational work. I feel sure that they will not desire that the training to be given here shall be of too exclusively a utilitarian character." A brief paper by Professor Miall on the beginnings of the Yorkshire College reminds us that in 1868 a circular was issued by the Yorkshire Council of Education announcing that a college of science was projected. The three first professors were Rücker, Thorpe, and Green. "Such men as these," says Professor Miall, "would make any place of learning thrive." In 1878 the addition of arts professors was followed by a change of name and the Yorkshire College was inaugurated. The Leeds School of Medicine, founded by William Hey in 1831 and for many years a flourishing institution, was in 1884 amalgamated with the college, which was soon afterwards incorporated with the Victoria University. From the pen of Mr. C. G. Wheelhouse, one of the honorary graduates, we have a short paper on medical student life in Leeds 60 years ago. It may be the case that, as he quotes as a heading for his reminiscences, "*Tempora mutantur, nos et mutamur in illis*," but Mr. Wheelhouse seems to possess the secret of preserving a youthfulness of mind which must be the envy of all. When we read that Mr. Wheelhouse could "fill a volume with memories of those happy and pleasant days" we must echo the feelings of all who know him when we say, "*Cur non?*" Illustrated as it is by views of the University buildings, including, of course, the medical school, and by reproductions of photographs of the chancellor, pro-chancellor, vice-chancellor, dean of the Faculty of Medicine, honorary graduates, members of the Senate, and others, this special number will appeal to all former students of the college and to all who are interested in the future of the University. Succeeding the title page is the following poem from the pen of Mr. Alfred Austin, in whom, as the vice-chancellor said when presenting him for the degree of LL.D., "we delight

to honour a poet who, born within the borough of Leeds, has gained the only distinction which the State bestows upon the first and the greatest of the arts."

"Above the glow of molten steel,
The war of furnace, forge, and shed,
Protectress of the city's weal,
Now, Learning rears her loftier head;

That Progress may at length descry
It hath no clue to guide aright,
And, conscious of its blindness, cry
Unto the Muse, 'More light! More light!'

That Wealth may fitly yield the throne
To Letters, Science, artist-skill,
And Matter, willing subject, own,
Mind must be lord and master still."

The late Mr. George Stamp Taylor.

By the death of Mr. George Stamp Taylor, at the age of 58 years, which occurred on May 25th, Leeds has lost one of the most widely known and highly respected of its medical men. Mr. Taylor was educated at the old Medical School of Leeds and became a Member of the Royal College of Surgeons of England in 1870. Some few years after starting in practice he was threatened with pulmonary tuberculosis and on the advice of Dr. T. Clifford Allbutt he made voyages to Australia and the Cape. His restoration to health was complete and throughout a long and busy professional life of 35 years his fine presence and robust frame seemed strangely at variance with the symptoms of that anxious time. Mr. Taylor was to all outward appearance in his usual good health until about a fortnight prior to his death, at which time signs of serious hepatic disease became manifest and it was seen that the end could not be far off. For many years Mr. Taylor had a very extensive practice both among the working and middle classes, and probably there was no man in Leeds more highly or more deservedly respected by his patients and by his professional brethren. To the latter he stood as a type of all that was best in the general practitioner; unflagging in his care of his patients, scrupulously loyal in his dealings with his neighbours, he commanded the esteem alike of his brother practitioners and of those whose aid he sought in consultation. Mr. Taylor leaves a widow and six children, with whom the deepest sympathy is felt.

May 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Sanitary Condition of Glasgow.

THE report just issued by Mr. Peter Faffe on the operations of the sanitary department of the city of Glasgow during the year 1904 forms very interesting and instructive reading for medical men and others concerned in the improvement of the conditions of living of those who go to make up the greater bulk of the inhabitants of our large cities. The Registrar-General's estimate of the population of Glasgow in 1904 was 798,357. The total deaths in that year amounted to 14,794 and the annual death-rate on this estimate comes out at 18·53 per 1000, in place of 18·405 for 1903. Zymotic disease has not been quite so prevalent. The total cases recorded were 16,333, or 154 less than had to be dealt with in 1903 and 3209 less than in 1902. 5185 cases were treated in the fever hospitals and 11,148 at home. Again measles heads the list with 8348 cases, or more than half the total number. There were 870 cases of small-pox, against 292 cases for 1903 and 460 for 1902. In connexion with the above cases of infectious disease a large amount of disinfecting work was done. The routine method for rooms was fumigation with sulphur or spraying with formalin solution. Bedding and clothing were either washed in the sanitary wash-houses or treated in the vacuum steam disinfector, and 1467 beds were burned in the cremators. In dealing with public nuisances 44,318 cases were investigated during the year. The choking of branch soil pipes and drains and disrepair of these formed the greatest percentage of the causes, 13,197 cases of this description having been found. Next in order come filthy stairs, closets, and lobbies, 7703; traps of water-closets or sinks choked and out of repair, 6546; and internal walls of dwelling houses in a filthy state, 5648. It is worthy of note that of nuisances in workshops three of the wards of the city contribute a large proportion and it is suggested that this may be due to the admixture there of a considerable alien population in excess of what is found in other wards. The report as a whole shows that the sanitary department of the city has a large amount of work to undertake each year and that it performs its duties thoroughly and with a great measure of success.

University of Aberdeen Medical Society.

At a meeting of the above society on May 26th, Professor J. Theodore Cash presiding, Dr. Ashley W. Mackintosh read an interesting paper on Cerebral Localisation. The extent of the motor areas, he said, had been narrowed down by recent investigation to the Rolandic region, the para-central lobe, and the bases of the first and second frontal convolutions. In the bases of the first and second frontal convolutions in monkeys were centres for movement of the head alone to one side and of the head and eyes together, and in a case of Jacksonian epilepsy he had been able to demonstrate the possibility of these two centres being present in man. Neurologists were at present not decided as to whether the motor areas were also sensory. Some held that only motor, and no sensory, symptoms resulted from a lesion in the motor area. Clinical evidence was adduced to show localisation of sensation, especially the muscle sense and the stereognostic sense, in the superior parietal convolution. An argument in favour of the sensori-motor idea was that lesions confined to these areas gave motor and sensory phenomena but the difficulty was to be sure that the effect of the lesions was so limited—to exclude the spreading effect of the lesion and hysteria. Was it possible to have paralysis without any lesion of the motor area or of the pyramidal tracts? A lesion cutting off the sensory from the motor centre caused "soul paralysis." Mott and Sherrington had shown by experiments that cutting the posterior roots of the spinal nerves on one side gave complete paralysis on that side without there being any motor lesion and similar cases had been observed in man. The muscles were devoid of spontaneous voluntary movement but could be used for reflex actions such as scratching or in imitation of another's action. In one case the arm was flaccid; there were no reflexes; pain, muscle, and stereognostic senses were lost; the patient could move the arm in imitation or when commanded but rarely spontaneously. All motion was reflex, old sensory impressions being called up to start motion. The motor centres were also stimulated by the visual and the auditory centres, hence the movement in irritation or on command. Regarding the stereognostic sense, or power of recognising objects by handling them, Dr. Mackintosh said that in the case of the hand it was made up of the spacing sense or power of recognising two or more separate impressions as separate ones, the localisation sense and the muscle sense. The sense of weight, of pressure, of temperature, &c., had also some effect but, extraordinary as it might seem, touch was considered to be unnecessary. These various senses got correlated in the cortex, possibly in the superior parietal convolution. Dr. Mackintosh considered that the most important memory of an object was the visual, so that the visual centre was connected to the stereognostic centre. In a case of his own where the patient's stereognostic and visual powers were intact, while he failed to name any particular object, a tumour was found lying between the auditory and the visual centres, so that the stereognostic and the auditory centres must be connected *viâ* the occipital lobe and not directly one with the other.

May 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association.

A NEW scheme is to be put forward for remodelling the Irish Medical Association. It has been drawn up by the reorganisation committee and aims at doing away with centralisation and official rule. Every member is to have a vote and influence in the affairs of the association. The supreme authority of the association is to be invested in the general meetings, the council is to be the executive with such powers only as may be conferred on it by general meetings, either by articles of association or by resolutions passed from time to time. On only one point practically has there been a difference of opinion, that being in regard to the appointment of members of council. The majority recommended that each province should elect four members but that Dublin should elect four—making a total of 20. These 20

would then coöpt three more—making a total of 23. A certain number of members, however, were in favour of having a councillor elected by certain areas, making in all 14 councillors, with, in addition, a president, honorary secretary, and five general councillors elected by the whole association, making a total of 21.

Water-supply of Dublin.

Some months ago a warning appeared in the daily journals that a difficulty as to the water-supply of the city, such as occurred in 1893, might be anticipated. Later, however, it was stated that the Vartry reservoir had overflowed on three occasions and that the supply for the summer was ample. Now a circular notice from the corporation of Dublin has reached the citizens of Merrion-square and Fitzwilliam-square containing many annoying restrictions concerning the service of water for sanitary purposes. Among other regulations the document states that the flushing of water-closets must in future be restricted to a cistern containing only two gallons and not four as hitherto. If this order be enforced it will cause much annoyance and expense to the citizens, for they will be obliged to remove their cisterns of an average capacity of four gallons and replace them with smaller ones. Mr. Burton Phillipson, a member of the Royal Sanitary Institute of Great Britain, published a letter in the Dublin morning journals of May 29th in which he states that all sanitary experts know that a four-gallon flush gives far better results, not only in cleansing closet basins, but in washing the drains and sewers; in fact, he says, a four-gallon flush is by no means waste. The corporation has from time to time agreed to serve water to outlying additional districts and when Bills were before Parliament evidence was always given that the supply for such districts was ample. The citizens have paid a large sum for their water service which has been adequate and satisfactory for years. It seems intolerable in the circumstances that they should now be asked to undertake great compulsory expense and inconvenience, more especially as the canal which so effectively helped the Vartry mains in 1893 is still available.

The Infectious Diseases Hospital, Belfast.

The public health committee of Belfast has unanimously decided to recommend to the city council Dr. A. G. Robb as physician to the new infectious diseases hospital. Dr. Robb is physician to the union fever hospital and he had charge during the recent epidemic of the isolation hospital for small-pox. His selection will have the entire concurrence of the medical profession.

Hospital Saturday in Belfast.

About £700 have already been received at the Royal Victoria Hospital, Belfast, as the result of the effort on May 27th. The accounts are still far from complete and it is expected that this year's collection will be the largest on record.

Fever Epidemic in Newtownards.

Newtownards, a town of over 9000 inhabitants, situated on the northern extremity of Strangford Lough, eight miles from Belfast, is in a serious condition, as it was reported at a meeting of the board of guardians on May 27th that there were 47 patients at present in the fever hospital, 35 of whom were suffering from typhoid fever and 12 from scarlet fever. All the accommodation is used up and three cases of diphtheria had to be taken to the infirmary where they were isolated. To meet the great overcrowding some temporary rearrangements have been made in the hospital and if the epidemics increase and these arrangements are not sufficient hospital tents are to be procured and to be used as convalescent wards. The epidemic is due to defective water-supply and bad sewerage and the whole facts have been laid before the Local Government Board by its medical inspector. It is hoped that prompt action will be taken to remedy these serious defects.

Ulster Medical Society.

The eleventh general meeting of this society was held on May 25th in the Medical Institute, Belfast, when Professor W. St. Clair Symmers gave a demonstration of the lesions produced by the ova of bilharzia hæmatobia, illustrated by lantern slides and a large number of preparations. At the conclusion of the address a vote of thanks was passed to Professor Symmers on the proposition of Sir W. Whitla, seconded by Professor J. A. Lindsay.

The Vacant North Donegal Coronership.

In connexion with the election of coroner for North Donegal, an office rendered vacant by the recent sudden death of Mr. W. O'Doherty, M.P., there are already half a dozen candidates in the field—four solicitors and two medical men, Mr. Patrick O'Callaghan of Carndonagh and Mr. Neal Nelson of Buncrana. The appointment, which is to be made on June 12th, rests with the Donegal county council.

May 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Cough in the Tuberculous.

AT the meeting of the Therapeutical Society, held on May 10th, M. Berlioz drew attention to the use of narcyl in cases of tuberculosis. He was enabled to state that this drug soothed the cough and could be administered for a long time without causing any inconvenience. M. Berlioz had analysed his own urine as well as that of patients while taking the drug and had ascertained that narcyl had a good effect upon nutrition, for it raised the coefficient of oxidation. Neither the frequency of the pulse nor the blood pressure was increased. Patients taking narcyl felt no difference in their appetite, in their digestive powers, or in their intestinal functions.

Amputation of the Arm and Shoulder Girdle for Malignant Growths.

At the meeting of the Society of Surgery, held on May 10th, M. Berger read for M. Jambrau a paper on the above subject. The growth in M. Jambrau's patient was a large sarcoma. He recovered well from the operation but died from recurrence about a year later. M. Jambrau had collected 188 cases of similar amputations and stated that the mortality was about 11 per cent. M. Kirmisson said that he had only had one case, a child, aged ten years, in whom he had performed amputation for a large sarcoma of the upper end of the humerus. The child died from recurrence at the end of about six months. M. Schwartz had had better fortune. He had performed the operation for a chondroma eight years ago and up to the present the patient had had no recurrence.

Suture of the Liver for a Bullet Wound.

At the same meeting of the Society of Surgery M. Couteau gave an account of a case of a patient who had been shot by a revolver. On the inferior face of the right lobe of the liver was a wound corresponding to the wound of entrance of the bullet. On the posterior portion of the left lobe was another wound marking the wound of exit. M. Couteau sewed up both wounds with an overcast (*en surjet*) suture. The right kidney was also wounded. The patient, however, died and at the post-mortem examination M. Couteau found another wound which had been overlooked. This was on the inferior face of the left lobe of the liver and was the actual wound of entrance. The wound in the right lobe was merely a gutter ploughed by the bullet on its way.

A Short Way with "Sorciers."

In the month of February Madame —— wrote to the commissary of police stigmatising a certain "medical man" as a wizard (*sorcier*). Madame —— had accompanied a friend who wished to undergo treatment to this man's house. She got no better and completely lost her reason. Madame —— therefore asked that his establishment should be closed if possible. The case came before the tenth court of the Tribunal and the *sorcier* having no medical diploma was prosecuted for illegal practice of medicine. In cross examination he said that all he had done was to massage the patient over her clothes, and that he only treated people without pretending to cure them (*pratiquait seulement l'art de soigner et non de guérir*). After hearing other evidence the court condemned him to pay a fine of 500 francs and 1000 francs damages to the Syndicate of Medical Men of the Seine.

Late Suture of a Divided Ulnar Nerve.

At the meeting of the Society of Surgery, held on May 17th, M. Chaput showed a patient who 14 years previously had divided his ulnar nerve. A few months ago M. Chaput had operated by cutting down on the divided ends, refreshing them and uniting them by suture. The result was most satisfactory, sensibility returned, the interossei which were completely atrophied had recovered in great part, and

although the patient could not completely extend his fingers, yet his hand was very fairly useful.

Electric Rectal Douches for Constipation.

Constipation, so frequent in women, is often connected with uterine troubles, especially uterine congestion, with or without displacement. Electrical treatment in such cases has a double advantage, for while according to the method of application it diminishes spasm or increases the contractile power of the gut, it also has a marked effect in reducing uterine congestion. The uterine treatment of constipation is useful in direct relation to the amount of uterine reflex causing the constipation. M. Burais of Vittel gave an account of such cases before the Medico-Chirurgical Society on May 8th. His conclusions were that electrical rectal douches are indicated in cases of acute constipation where an evacuation of the bowel is urgently required and in chronic cases in which the object is to restore the intestinal tone. Other means of treatment are not to be neglected, such as exercises, massage, and, above all, attention to diet.

Extraction of Foreign Bodies from the Respiratory Tract.

At the meeting of the Society of Surgery held on May 17th M. Sebileau read an account of two cases of foreign bodies in the bronchi. The first was that of a man, aged 63 years, on whom tracheotomy and inferior bronchoscopy were performed. These methods of procedure enabled M. Sebileau to extract two small bones. After the patient had undergone a series of pulmonary troubles, due to the sojourn of the foreign bodies, he made a perfect recovery. In the second case the foreign body was a pin some five or six centimetres long which had stuck at the second bifurcation of the bronchus on the right side. Tracheotomy was performed and two days later inferior bronchoscopy, after which M. Sebileau easily extracted the pin with Kilian's forceps.

May 30th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Schiller's Connexion with Medicine.

AT a meeting of the Clinical Society held on May 5th Professor Neuburger read a paper on the influence which his early medical training had on the poet Schiller. It was well known that his patron, Prince Karl August, originally intended that Schiller should be an army surgeon and his writings contained numerous indications of the impressions made on him at this period. His philosophical, metaphysical mind was already developed in his youth and when 21 years old he had written several very interesting essays which might be termed "psychophysical." One of his writings about this time was the treatise on "The Connexion between the Animal and Spiritual Nature of Man." The leading idea of this little dissertation was that body and soul influence each other mutually and that sensual feeling brings forth mental actions; that the individual is dependent on his instincts to develop the mental faculties; and that nations require danger, hunger, and want to produce cultivation. Professor Neuburger went on to show how often Schiller applied his medical knowledge in his poetry and how well he had learnt to observe accurately not only the body but also the soul.

Occlusion of the Anterior Openings of the Nose.

At the monthly meeting of the Laryngological Society some interesting cases were shown by Dr. Menzel, assistant to Dr. Hajek. The first was a case of congenital membranous occlusion of both anterior nasal openings, this being an extremely rare condition. Several attempts had been made to establish a passage for the air through the nose, but all had failed. The interesting point was that the mucous lining of the nasopharynx was quite normal, thus proving that mouth-breathing alone could not be responsible for the pharyngitis sicca so often found associated with obstruction of the nose. In the discussion following the demonstration several speakers remarked that in cases of occlusion of the choanal openings there was also a normal pharynx which after operation showed the symptoms of chronic hypertrophic or atrophic pharyngitis. This had clearly been caused by the discharge from the nose coming into contact with the normal mucous wall. Dr. Roth said that such occlusions as the one shown were most likely due to syphilis because the really congenital occlusions were situated quite at the introitus nasi, whilst the present one was further back at the level of the anterior end of the lower turbinated bone. Another of the cases was one in which the frontal sinus was so developed on the right side that it compressed the left sinus and filled its place. The left sinus was only as large as a pea but could be identified as a sinus by having its own opening into the left nostril.

An Antivivisection Speech by a Government Official.

At the opening of a new hospital at Linz some days ago a high official made an attack on the carrying on of experimental research for the advancement of medical knowledge. When eulogising the benevolent donors by whose aid the institution had been erected, he astonished the medical men, town councillors, and others who were present by predicting that none of the modern so-called experimental pathology would be permitted in the hospital and by asserting that the utility of such experiments was never justified by the results obtained. Dr. Brenner, who was the next speaker, did not conceal his surprise at such unreasonable remarks on the part of a man supposed to be well acquainted with the results and objects of modern research. The hospital, he said, would be a home for the sick and a help for the weak, and he also hoped that in it some of the mysteries of human life would be investigated and perhaps solved.

Adrenalin in Asphyxia.

At the last meeting of the Gesellschaft der Aerzte Dr. Joseph Winter read a paper on experiments which he had made on the action of extracts of the suprarenal gland on the mammalian heart when under the influence of an overdose of chloroform. He had found that, as Lowton and Sherrington had shown, the heart of a cat stopped beating when transfused by a solution of chloroform of strength 1½ per 1000. Dr. Winter isolated a cat's heart and sent through the aortic valve and the coronary arteries the above-mentioned solution. After five minutes a solution of sodium chloride made to transverse the same route caused no contractions, but when 15 minutes were allowed to elapse and a solution of adrenalin of strength 1 in 2000 was injected the heart began to beat again. These experiments were conducted in several ways and always with the same result. Cats and rabbits were then submerged in water for ten minutes and artificial respiration being of no use he again injected a solution of adenalin chloride into the heart which now resumed its beating. It is to be hoped that the method will be improved so as to be capable of application to the human subject. Dr. Winter thinks that it will be useful not only in cases of drowning and asphyxia due to cardiac poisons such as alcohol, chloral, and chloroform but also in combating surgical shock.

May 29th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Bengal Jails.

THE resolution of the Government on the annual report of the jails of Bengal has just been published. It shows that many of the jails are more or less continually overcrowded and in 16 the accommodation was insufficient for the average daily requirements. The numbers of persons in prison during the year were about the same as in 1903. The most striking feature of the report is that the death-rate calculated on the daily average population was only 20·2 per 1000. During the last 30 years there has been a steady improvement in jail mortality and during the last three years the rates have been 25·6, 23·6, and 20·2 respectively. The mortality from malarial fever has largely declined. In spite of the prevalence of plague only one jail was attacked. This was at Chapra, where the jail is situated in the heart of the town. A number of important changes have been introduced in diet. An allowance of a ration of fish in all prisons where fish is the staple food of the population has been given and an increase of oil and salt has been granted. Superintendents have been given a wider discretion of altering diet in accordance with local requirements and especially in those jails peopled by prisoners from aboriginal tribes. It seems that the use of fetters is largely employed as a punishment, being in only 248 cases imposed for safe custody. The mark system requires more intelligence than the convicts possess and

involves much clerical labour and the separate cell system involves more accommodation than is available. Corporal punishment is employed generally as a last resort.

The Parsee Maternity Hospital in Bombay.

The annual report of the Parsee Maternity Hospital in Bombay shows a continued record of really good work. Its popularity amongst this community is remarkable because out of a total of 1304 births among the Parsees no less than 535 occurred in this hospital. The hospital is always full and many have to be refused admission. The example set by this hospital has been followed by the Khojas and Bhattias and Bunyas who have now established separate hospitals for their respective communities. In the Parsee institution a certain proportion of the poor are admitted but the majority pay. Infant mortality in the hospital seems to be much lower than in the homes of the people, as only ten deaths occurred amongst the children born in the hospital while 59 occurred amongst those outside.

The Plague Mortality throughout India.

The plague mortality throughout India has again shown a rise; for the week ending April 29th there were returned 56,732 deaths, as against 54,602 for the previous seven days. The principal figures are: Punjab 28,728 deaths, as against 27,372 last week; United Provinces 15,710, as against 16,737; Bengal 4108, as against 3559; Rajputana 4298, as against 2406; Bombay Districts 1443, as against 1766; Burmah 137, as against 175; Kashmir 368, as against 215; Bombay city 935, as against 1021; and Calcutta 624, as against 792. The first attack in Rangoon has been severe, though the outbreak is declining. Up to April 30th 1053 cases with 937 deaths had been recorded. A satisfactory change seems to be taking place in public opinion with regard to inoculation. In Karachi the managing committee of the corporation has recommended that to popularise this prophylactic amongst the subordinate staff, especially among the sweeper class, an inducement of one month's salary should be given to those who come forward with their families to be inoculated. In Bombay a citizens' meeting was held with the object also of popularising this measure and an influential committee was appointed. As every precaution is now being taken in the manufacture of the prophylactic and it is stated that Dr. Martin was satisfied with the methods of preparing it, and, further, as its influence for good continues with each year to be capable of proof, we are now looking forward to a Government recommendation of it.

May 12th.

Obituary.

EUSTACE TALBOT, M.B., B.C. CANTAB., M.R.C.P. LOND.

THE death is announced from appendicitis on May 26th of Dr. Eustace Talbot. Some years previously he had suffered from a mild attack of the same complaint, but in the interval had not been troubled with any signs of a recrudescence. He was in his usual health and at work as late as the afternoon of May 18th but in the evening began to complain of symptoms which pointed to a fresh attack of the former trouble. His condition became rapidly worse and an operation was performed on May 21st. During the next four days, though his condition was still dangerous, he appeared to be doing well, but on the afternoon of the 25th he had a severe attack of abdominal pain and died a few hours later.

Eustace Talbot was the youngest son of the Right Hon. J. G. Talbot, M.P. He was educated at Winchester and Trinity College, Cambridge. It is not necessary here to make more than a brief reference to his years at the University. He threw himself with eagerness into all the many spheres of active life and in each his enthusiasm, his gay humour, and his personal charm insured him success and esteem. He attained the distinction of a "blue" for tennis; he edited the *Granta* for a year, had a large share in the management of the A.D.C., and was on the committee of the Pitt Club. But, as he often said, the best result of his years at Cambridge was the acquisition of the numerous friendships which were the delight of his life and again and again drew him to revisit Cambridge. He went to St. Bartholomew's Hospital in 1896 and found there many friends who had preceded him and others to whom he was already well known. As at the University, he entered into all the life of the medical student and at the same time quickly acquired a knowledge of his profession which was remarkable in one who was so ready to acknowledge the claims of society outside the hospital. He qualified in 1899 and almost immediately became house physician, and subsequently resident medical officer, at the Royal Hospital for Diseases of the Chest, an appointment which he relinquished to become house physician to Sir William Church at St. Bartholomew's Hospital. This appointment was cut short by an attack of hæmoptysis which led him to spend a considerable time at Davos. He revisited Davos every winter, although his health was fully re-established, and there, as everywhere else, made numerous friends. In 1901 he became a Member of the Royal College of Physicians of London and seized every opportunity of clinical experience which came in his way. He worked at Queen-square, at the Children's Hospitals at Great Ormond-street and Shadwell, and at the City-road Hospital for Diseases of the Chest. In 1904 he was appointed casualty physician at St. Bartholomew's Hospital and assistant physician at the City-road hospital. He was also physician to the Sun Life Assurance Office. Thus, although handicapped by the failure of his health at an early period of his medical career, he had secured a position which made ultimate success certain, and a further appointment in the medical school as assistant curator of the museum gave him additional assurance of attaining the object of his ambition, a place on the medical staff of St. Bartholomew's Hospital. But the grief felt by those who knew him, for the untimely end of a career of such promise is less than that for the loss of a friend. There was no sphere in the life at St. Bartholomew's in which he did not take a full part. He undertook the editing of the hospital journal at a time when it was at a very low ebb and gave it a new life; he was an enthusiastic member, and afterwards President, of the Abernethian Society, and though not a first-class cricketer was an invaluable member of the hospital eleven, and later one of its constant opponents in the Past v. Present matches.

To those who did not know him it is impossible to give in words any idea of Eustace Talbot's personal charm and for those who did know him it is superfluous to attempt it. The fascination of his personality was due principally to his absolute sincerity and honesty, combined with a lively humour and a temper which nothing could disturb; to these were added a wide experience of the various circles of society, in all of which he was a welcome guest, and a ready appreciation of the good points of those with whom he was thrown. At St. Bartholomew's the blank he has left will be filled only with happy memories:

> "No weakness, no contempt,
> Dispraise, or blame, nothing but well and fair,
> And what may quiet us."

The funeral, which took place on May 30th, was attended by numerous friends from different parts of the country; and a memorial service held at the same hour at St. Bartholomew-the-Less was attended by many of the medical staff, the sisters and nurses, and students of St. Bartholomew's Hospital.

GEORGE LONGBOTHAM, M.R.C.S. ENG., L.S.A. LOND.

IN the death of Mr. George Longbotham, who passed away at Harrogate on May 10th, the profession has lost a member whose example can ill be spared and of whom it may be said that his ethical actions formed the chief glory of his life and will remain his greatest claim to remembrance. Born at Chester-le-Street, in the county of Durham, in 1845 he was educated at the Newcastle School of Medicine and took the diplomas of L.S.A. and M.R.C.S. Eng. in 1866 and 1867 respectively. He then joined his uncle in practice at Seaton Carew, county of Durham, but after a time removed to Leeds, and subsequently to Middlesbrough, where he practised for 26 years. He left Middlesbrough five years ago, first for Ilkley and then for Harrogate, where soon afterwards unmistakeable signs of declining health became evident. In addition to being medical officer to the union infirmary in Middlesbrough he was on the staff of the North Riding Infirmary in the same town for many years. He was also a Past Master of the Ferrum Lodge of Freemasons. The funeral took place at the Middlesbrough cemetery on May 13th. Mr. Longbotham has left a widow, one daughter,

and eight sons, the eldest of whom is a medical practitioner in Middlesbrough.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Michael Cherinoff, professor of medical diagnosis in the University of Moscow.—Dr. Friedrich, surgeon-general in the Bavarian army.—Dr. Eduard von Fichte, surgeon-general in the Würtemberg army and nephew of the philosophical writer, Johann Gottlieb Fichte. He was 79 years of age.—Dr. Savarikin, formerly professor of histology in the Military Medical Academy, St. Petersburg.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Keepers of licensed lodging-houses, in which students are residing, are to be required to notify to the Syndicate the presence in their houses of "any infectious disorder, including consumption or any other form of tubercular disease."—Dr. Donald MacAlister has been appointed by the Senate a member of the Syndicate for Instruction in Forestry; he has also been appointed deputy for the Vice-Chancellor as chairman of the Board of Geographical Studies.—Mr. J. J. Lister, F.R.S., St. John's, has been appointed to occupy the University table at the Plymouth Marine Biological Laboratory.—The Medical School Buildings Syndicate reports that £37,000 have been expended on the new buildings and fittings. A considerable sum will still be required for the completion of the block; but the source of supply, unless the much-desired benefactor comes forward, is not apparent.—Honorary degrees are to be conferred on His Excellency the French Ambassador (M. Cambon), Sir Edmund Monson, Sir Robert Finlay, Professor Vinogradoff, Lord Reay, Father Denifle, Professor Driver, Father Ehrle, Professor Gildersleeve, Mr. Frederic Harrison, Commander R. F. Scott, and Sir Francis Younghusband.—The following degrees were conferred on May 25th:—

M.D.—Gnoh Lean Tuck, Emmanuel.
Sc.D.—J. J. H. Teall, St. John's.
M.B.—G. T. Western, Pembroke; K. H. A. Kellie, Caius; W. V. Braddon, Trinity Hall; W. V. Nalsh, Emmanuel; and J. H. F. Wilgress, Selwyn Hostel.
B.C.—R. B. French, King's; D. V. Cow, Trinity; J. R. C. Greenlees, St. John's; W. R. Honeybourne, Peterhouse; W. V. Braddon, Trinity Hall; N. C. Fletcher, Queen's; and W. C. P. Ellis, St. Catharine's.

UNIVERSITY OF LONDON.—At examinations held in May the following candidates satisfied the exminers:—

M.B., B.S. EXAMINATION.

Honours.—‡§Vincent Zachary Cope, B.A., St. Mary's Hospital; ‡Ernest Nicholson Cunliffe, Victoria University; *Eardley Lancelot Holland and *Robert Hammersley Lee, King's College; †§Thomas Lewis (University Medal), University College; *John Tryweryn Lloyd, The University and Royal Infirmary, Liverpool, and University College; §Albert Edward Pinniger, Middlesex Hospital; and *‖Ralph Osmund Williams, Guy's Hospital.

* Distinguished in Medicine.
† Distinguished in Pathology.
‡ Distinguished in Forensic Medicine and Hygiene.
§ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.

Pass.—Albert Maurice Amsler and Thomas Paul Baldwin, St. Bartholomew's Hospital; Walter Ball, Westminster Hospital; Desborough Brodie, St. George's Hospital; Norman Carpmael, St. Thomas's Hospital; William Henry Cazaly, B.A., St. Bartholomew's Hospital; Alfred Coleridge, King's College and University College, Bristol; David Kirkpatrick Coutts, St. Thomas's Hospital; D. Henriques De Souza, B.Sc., University College; John Harmer Drew, St. Thomas's Hospital; Harold Edward Dyson, University College; Evan Evans, Guy's Hospital; Joseph William Evans, Charing Cross Hospital; Harry Farncombe, University College; Richard Felton, Guy's Hospital; Jessie Josephine Francis, Margaret Helen Fraser, and Ruby Ellen Glanville, London (Royal Free Hospital) School of Medicine for Women; Harold Axel Haig, University College; Alfred Wyatt Hooker, St. Thomas's Hospital; Charles Edward Iles, University of Birmingham; Ambrose Hilton John, St. Bartholomew's Hospital; Thomas Henry Jones, King's College; Charles Hugh Latham, St. Thomas's Hospital; Frank Markland Longson, Guy's Hospital; Herbert Love, St. Bartholomew's Hospital; Edward Mapother, University College; Clifford Arthur Moore, London Hospital and University College, Bristol; Conwy Llewellyn Morgan, St. Thomas's Hospital; Basil Eustace Moss, St. Bartholomew's Hospital; Ernest Edward Mossop and Lionel Edward C. Norbury, St. Thomas's Hospital; Leonard Gregory Parsons, University of Birmingham; Griffith Henry Rees and Morris de Lancey Robinson, Guy's Hospital; William Mackenzie Sadler, University College; John Noel Sergeant, St. Thomas's Hospital; Ida Russell Shields, London (Royal Free Hospital) School of Medicine for Women; William Herbert Smalles, University of Leeds; Sarah Charlotte E. Sommer, Alice Maude Sorabji, and Mary Marguerite L. Taylor, London (Royal Free Hospital) School of Medicine for Women; Gordon Wilson Thomas, University of Leeds; Ethel Maude Townend, London (Royal Free Hospital) School of Medicine for Women; Edwin Robert Wheeler, King's College; and Frank Thomas H. Wood, B.Sc., Guy's Hospital.

The following candidates have passed in one of the two groups of subjects:—

Group I.—Arthur William Baker, Universities of Leeds and Liverpool; Frederic Barker and John Aaron Berlyn, University of Birmingham; Della Davies and Katherine R. Drinkwater, B.Sc., London (Royal Free Hospital) School of Medicine for Women; Cecil Hugh M. Hughes, Westminster Hospital; Percy Cecil Parker Ingram, Guy's Hospital; Brinley Richard Lloyd, Charing Cross Hospital; George Bartley McKean, University College; Alexander Manuel and Horace Sidney Matson, St. George's Hospital; and Philip Henry Seal and Malcolm William Stewart Smith, University College.

Group II.—Valentine Henry Blake, St. George's Hospital; George Archibald Bosson, University College; Alwyn Hewett Bradley, University of Birmingham; George Percival Charles Claridge, St. Mary's Hospital; Isaac Reginald Cook, Guy's Hospital; Frank Bell Dalgliesh, St. Thomas's Hospital; George De la Cour, University College; Jeannette Rachel De Pass, London (Royal Free Hospital) School of Medicine for Women; Albert Davies Edwards, London Hospital; Douglas Edward Finlay and Hyman Isaacs, St. Mary's Hospital; George Francis Jones, University College; Stephen Hugh Pitcairn, St. Thomas's Hospital; Robert Leslie Ridge and Frank Douglas Roberts, London Hospital; Charles Chapman Rushton and William Lochhead Scott, University College; and Barbara Tchaykovsky, B.Sc., London (Royal Free Hospital) School of Medicine for Women.

B.S. EXAMINATION.

Honours.—Thomas Percy Legg (University Medal), King's College and St. Bartholomew's Hospital; Thomas Perrin, London and St. Thomas's Hospitals; Herbert Douglas Smart, Guy's Hospital; and Sidney Maynard Smith, St. Mary's Hospital.

Pass.—Hermann Balcan, M.D., London Hospital; Ruth Balmer, London (Royal Free Hospital) School of Medicine for Women; Frank Butterfield, Victoria University; Jean Joseph T. Raoul Félix, Middlesex Hospital; Llewellyn S. H. Glanville, Guy's Hospital; Charles Herbert Farley Johnston, Charing Cross Hospital; William Henry Jones, London Hospital; Charles Ernest Lakin, M.D., Middlesex Hospital; Frederick William Weeks Smith, St. Thomas's Hospital; Arthur Campbell Stark, Westminster Hospital; William Gordon Taylor, B.Sc., Middlesex Hospital; Louisa Graham Thacker, London (Royal Free Hospital) School of Medicine for Women; Frank Leslie Thomas, Guy's Hospital; Tom Walker, Victoria University; Moses Thomas Williams, London Hospital; and Samuel Zobel, University College.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

ROYAL BRITISH NURSES' ASSOCIATION.—In the gardens of the Royal Botanic Society, Regent's Park, N.W., on June 7th, at 3 P.M., a garden party and conversazione will be held in connexion with the Royal British Nurses' Association. The annual meeting will take place in the museum of the gardens on the same date at 4 P.M. The address of the secretary is 10, Orchard-street, Portman-square, W.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The annual general meeting of this society was held on May 22nd, Mr. Christopher Heath, the President, being in the chair.—The report for 1904 was adopted and was as follows. During the year nine new members were elected, five members died, and five resigned. At the end of the year there were 149 life members and 144 subscribers. Two widows were elected and three widows died, there being 52 in receipt of pensions at the end of the year. Two orphans were elected and one became ineligible, leaving 16 in receipt of pensions. The directors have to record, with great regret, the death of Mr. Joseph B. Blackett, who had for 37 years ably filled the office of secretary to the fund and they have appointed Mr. Edward Blackett to fill the vacancy until the July quarterly court of directors, at which the secretary is annually elected. During the year the sum of £3214 10*s.* had been distributed amongst the annuitants of the charity. The invested capital of the society now amounts to £98,810. The advantages of the society cannot be too strongly urged upon the members of the medical profession, especially the younger ones, for it is open to all registered medical practitioners who at the time of their election are in practice within a radius of 20 miles from Charing Cross. The annual subscription is £2 2*s.*, payable either in one sum, or in two half-yearly ones of £1 1*s.* After election members are at liberty to live outside the 20-mile radius, nor is their residence confined to the British Isles, there being members now on the books resident in Canada, South Africa, Rome, and Egypt. Relief is only granted to the widow or orphans of a practitioner who had at the time of his death been a member of the society for three years.

Few can realise the number of applications that are being constantly received from widows of medical men left totally unprovided for and relief has in the vast majority of cases to be refused owing to the fact that the late husband had not been a member of the society. The amount of the grant given is regulated by the two following by-laws:—

The widow of a member who has no certain income or provision exceeding altogether the yearly value of £80 is eligible to receive, half yearly in advance, such relief from the society as the court of directors shall determine, and in determining the amount of such relief regard shall always be had to the age of the applicant, her ability to maintain herself wholly or partially, and to the amount of subscriptions her deceased husband shall have paid. Whenever the death of the member has been caused by a sudden accident or illness in the pursuit of his professional duties the court of directors may decide to make an additional grant in favour of his widow not exceeding £25.

The widow of a member who is left with a child or children under 16 years of age entirely or in part dependent on her, and whose certain income or provision does not exceed altogether the yearly value of £15 for each child, in addition to the £80 mentioned in By-law LXIX., is eligible to receive such additional assistance, half-yearly in respect to each child under 16 years of age, as the court of directors shall determine; but if such child or children have any provision independent of the mother such provision must be distinctly stated to the directors in the usual half-yearly declaration of the widow.

Further particulars of the society can be obtained by sending a stamped envelope to the secretary at 11, Chandos street, Cavendish-square, W.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held on May 25th, at 6, Suffolk-street, Pall Mall, London, Dr. F. H. Champneys being in the chair. The Board heard the following charges alleged against Annie Bord, a certified midwife: 1. That being in attendance on the confinement of a certain woman she was guilty of disobeying the rules of the Board in the following respects: (*a*) on the occurrence of rigor she did not decline to attend alone nor did she advise that a registered medical practitioner should be sent for as required by Rule E 17 (c) (I.) (4); (*b*) on the occurrence of foul-smelling discharges, lasting during several days, she did not decline to attend alone nor did she advise that a registered medical practitioner should be sent for, as required by Rule E 17 (c) (I.) (2). 2. That having been in attendance on a patient suffering from puerperal fever she did not disinfect herself, or her instruments, or her other appliances, or her clothing to the satisfaction of the local sanitary authority before going to another labour. Annie Bord attended the meeting and protested her innocence, explaining that even if she had done anything wrong it was in consequence of her ignorance of the rules of the Board. The decision of the Board was that the name of Annie Bord was to be removed from the roll of midwives and the chairman stated that he hoped that the decision of the Board would be a warning to midwives that they cannot plead ignorance of the rules of the Board. Midwives must remember that they must not speculate in the lives of their patients but must bear in mind the responsibilities of the sacred trust committed to their charge. The Board next heard the following charges alleged against Georgina Eliza Price, a certified midwife: (1) That being in attendance on the confinements of certain persons she was guilty of malpractice, negligence, or misconduct while in the performance of her duty as a midwife; (2) being drunk when in attendance on certain cases. This midwife was represented at the meeting of the Board by Mr. P. R. Simner, who was instructed by Mr. H. D. Brown. The Board decided in this case that the midwife Price should be severely censured which was accordingly done by the chairman. The Board then considered the following charges alleged against Martha Maria Herbert, a certified midwife: 1. That being in attendance on a woman in labour she was guilty of disobeying the following rules of the Board: (*a*) the case being one of breech presentation in a primipara she did not decline to attend alone nor did she advise that a registered medical practitioner should be sent for, as required by Rule E 17 (a) (1); (*b*) she did not express the placenta, as directed by Rule E 17 (b) (4), but within 20 minutes of the birth she pulled on the cord and then inserted her hand into the vagina and detached the placenta. 2. That having sent for a registered medical practitioner on the occurrence of secondary post-partum hæmorrhage she failed to notify the same to the local supervising authority, as required by Rules E 17 and 19 (b). 3. That she undertook the duty of laying out the dead, contrary to Rule E 15. The midwife Herbert did not attend and the Board decided in this case that she was to be censured. Accordingly directions were given to the secretary of the Board to that effect.

UNIVERSITY OF OXFORD: EXAMINATION FOR THE DEGREE OF M.CH.—The examination for the degree of Master in Surgery will commence at 10 A.M. in the Medical Department, University Museum, on Thursday, June 29th. The names of candidates must be sent in to the secretary to the Board of Faculties, not later than 10.30 A.M. on Friday, June 9th. Particulars are obtainable on application to the secretary of the Boards of Faculties, at his office, Clarendon Buildings, Broad-street, Oxford.

THE HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE.—Viscount Clifden, presiding at the annual meeting of the friends of this hospital on Friday, May 26th, dwelt upon the great advantages of the institution, pointing out that everything was arranged most suitably and in accordance with modern ideas. He alluded to the large increase of legacies, lamented the small amount from annual subscriptions, and thought that the freedom of the institution from debt was worthy of imitation by other institutions, many of which thought that indebtedness was the most effective way of getting contributions. The Rev. Canon Barker, in seconding the adoption of the annual report, referred to the length of residence of patients, averaging 75 days, as showing the intent of the hospital to do good in all cases where possible, and regretted the unfortunate decision of the House of Lords in bygone days which still condemned the London hospitals to pay over £20,000 a year in rates.

FESTIVAL DINNER OF THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—Dr. E. C. Beale in replying to the toast of "The Medical Staff" at the festival dinner of the City of London Hospital for Diseases of the Chest, held on May 26th at the Trocadéro Restaurant, London, utilised the occasion by pointing out that the hospital could be made to yield greater benefits to the working classes if the local authorities would provide a suitable place for chronic cases which were past all hope of cure. He showed that by adopting modern methods of treatment the medical men at the hospital were able more and more to restore patients to their work and health and he had a word of praise for the hospital committee for the generous manner in which the demands of the medical staff were always met. During the evening subscriptions were announced to the amount of £2386. Among the amounts making up this total there were some heavy contributions from the working men's societies in the neighbourhood of the hospital.

GLASGOW UNIVERSITY CLUB, LONDON.—Sir William Ramsay presided on May 26th at the dinner of the above club which was held at the Trocadéro Restaurant, Piccadilly-circus, London. Immediately preceding the dinner the annual general meeting of the club was held and the report of the council for the year was of a very satisfactory description, 32 new members having joined, making the total membership 301. Lord Kelvin was re-elected president of the club and Mr. J. Dodds and Dr. C. O. Hawthorne were elected honorary secretaries. Amongst those present at the dinner were Professor A. Ewing, Director-General A. H. Keogh, Lieutenant-Colonel W. Babtie, V.C., Brigadier-General Sir Ronald Macdonald, Sir G. H. Philipson, Professor J. Y. Mackay, Professor McCall Anderson, and Sir W. Thomson. The loyal toasts having been duly honoured the toast of "The Imperial Forces" was given by Mr. A. Ure, M.P., and this was replied to by Brigadier-General Sir Ronald Macdonald. Sir William Ramsay then submitted the toast of "The University and the Club" and interspersed his remarks with stories of the University of Glasgow. Professor Mackay, in proposing the toast of "The Guests" related with pride how the University of Glasgow had held aloft the lamp of learning in Scotland for many hundred years and was at the present time full of vigour and honour and dignity. This toast was acknowledged by Professor Ewing who, referring to Sir William Ramsay, said that he had once described him as an Argonaut, for he had brought back argon from a voyage into science, but Sir William Ramsay had lately looked into the sea-water and discovered a new element; in fact, the lexicons would be soon exhausted in finding names for the new elements which their chairman was discovering. Professor McCall Anderson then gave the toast of "The Chairman" which called forth from Sir William Ramsay another speech, with more Scotch stories, which ended the evening.

STATE REGISTRATION OF TRAINED NURSES.—In the course of an address delivered by Mr. R. C. Munro Ferguson, M.P., to members of the Society for the State Registration of Trained Nurses at the third annual meeting held at 11, Chandos-street, London, W., on May 26th, he discussed the chances of the passing of the Nurses Registration Bill which he had introduced into the House of Commons on Feb. 23rd, 1904. He did not consider it possible for the Bill to be passed this session and in relation to its becoming law he used the somewhat vague term that the promoters of the Bill might be successful in the near future in getting the measure made law. The Bill had been down for a second reading on several occasions but had not been reached as no place was secured in the ballot for its discussion; moreover, as it had been blocked it could not be discussed as non-contentious business after 12 o'clock. A great number of nurses were present at the meeting and Mr. Ferguson's explanation of the difficulties attending the passage of a private Bill through Parliament was very carefully listened to. The annual report stated that during the last year 300 applications for membership of the society had been accepted from matrons and certificated nurses, thus making a total of 1505 since the formation of the society three years ago. According to the report the work of the society had been accomplished largely by voluntary labour and by this means and by the personal influence of many of the members interest in State registration of nurses had been aroused all over the United Kingdom and it was hoped that after due consideration of the question a consensus of opinion in its favour might ultimately be produced.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Experiments upon Live Animals.

THE Parliamentary papers laid upon the table of the House of Commons during the week have included a report prepared by the Home Office in regard to the experiments performed on live animals during 1904. It is explained that there was a large increase, which was accounted for mainly because of the progressive importance attached to biological tests generally in practical medicine for the diagnosis, treatment, and prevention of disease and by the more widely recognised need for such experiments by those responsible for the care of the public health. The Royal Commission on Tuberculosis made 1821 experiments in the course of the year; 5852 experiments were carried out for testing antitoxic sera and vaccines; and 8292 experiments, mostly inoculations, were performed on behalf of the Imperial Cancer Research Fund. As a rule, the conditions of the experiments are such that the healing of the wounds takes place without pain but if the antiseptic precautions fail and suppuration occurs the animal is required to be killed. Experiments involving the removal of important organs and even parts of the brain are performed without causing pain, and after the section of part of the nervous system the resulting degenerative changes are painless. In no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anæsthetics and in no instance has a certificate dispensing with the use of anæsthetics been allowed for an experiment involving a serious operation. Unless a special certificate be obtained the animal must be kept under an anæsthetic during the whole of an experiment. In the event of pain ensuing as the result of an inoculation the animal has to be killed under anæsthetics as soon as the main result of the experiment has been attained. It is expected that on an early day this information will be made use of in debate in the House.

HOUSE OF COMMONS.

WEDNESDAY, MAY 24TH.

Medical Practitioners and Inquests.

Mr. WEIR asked the Home Secretary whether his attention had been called to the fact that the coroner for South-West London and city of Westminster was in the habit of employing a pathologist to determine the cause of death in preference to the medical practitioner last in attendance on the deceased; and why the practice adopted by other coroners throughout the country was departed from by the coroner for this district.—Mr. AKERS-DOUGLAS said: I have had under my notice certain statements made with regard to the procedure at inquests held by the coroner in question but I do not know how far these statements are accurate and, in any case, I have no authority to interfere with the discretion of a coroner in the conduct of inquests.

THURSDAY, MAY 25TH.

Small-pox in Liverpool.

Mr. THOMAS BAYLEY asked the President of the Local Government Board whether he had supplied a copy of the recent report of Dr. R. J. Reece, one of the medical inspectors of the Local Government Board, on the Liverpool small-pox hospitals to the local authority of that city; and whether, in view of Dr. Reece's conclusion that the influence of the hospitals had been responsible in material degree for the sustained prevalence of small-pox in Liverpool in 1902-03 he had made any representations to the local authority as to the desirability of discontinuing the use for small-pox purposes of the two hospitals situated within the city—viz., the Priory-road and Parkhill hospitals, which were especially condemned by Dr. Reece—and of making such other arrangements for the treatment of small-pox cases as would be less likely to be a source of danger to the inhabitants than those which now existed.—Mr. GERALD BALFOUR answered: The Local Government Board sent copies of Dr. Reece's report to the town council of Liverpool, but it did not deem it necessary in connexion with it to make any special representations to the council of the kind suggested in the question. The Board has issued a memorandum containing its views as to the liability of small-pox hospitals to disseminate the disease, and as to the desirability of their being placed outside towns as far distant from any populated neighbourhood as considerations of accessibility permit. The Board sent copies of this memorandum in 1902 to the town council of Liverpool, amongst other local authorities, and in the circular which accompanied it the Board expressly stated that small-pox hospitals should be placed in sparsely populated situations.

Cerebro-spinal Meningitis.

Mr. THEODORE TAYLOR asked the President of the Local Government Board what action he had taken with reference to the Northamptonshire cases of cerebro-spinal meningitis or spotted fever; and whether, in view of the rapidity of its spread and fatal effects in Germany, special means would be taken, and, if so, what means, to prevent its spread in the United Kingdom.—Mr. GERALD BALFOUR, who replied, said: The Local Government Board has caused one of its medical officers to visit the district affected for the purpose of ascertaining the facts and of giving advice to the district council and its officers. As a result of the inspector's visit the Board has expressed its willingness to entertain any proposal from the district council to make it compulsory during a limited time to notify to it cases of the disease referred to which occur in its district. I may add that the Board would be prepared to entertain similar applications from other local authorities who may deem it desirable to adopt this course and thus to safeguard their districts from the importation and spread of the disease.

MONDAY, MAY 29TH.

Vaccination Exemption Certificates.

Mr. CORBIE GRANT asked the Home Secretary whether he was aware that Edward Robinson, a blacksmith, of Warmington (Warwickshire), applied four times (on Jan. 25th, Feb. 8th, Feb. 22nd, and March 29th, 1905) for a vaccination exemption certificate to the Kineton bench of magistrates for his child born on Dec. 4th, 1904, and on each occasion was refused; and whether, in view of the frequency of such cases before certain magistrates, he would bring in a Bill substituting a statutory declaration by the applicant to be filed by him at the time of the registration of the birth for a certificate of exemption.—Mr. GERALD BALFOUR replied: I have no information as to the case to which the honourable Member refers. I may point out that proposals of the kind which he suggests were fully discussed when the Bill for the Vaccination Act, 1898, was before the House and that they were rejected. I am not prepared to introduce legislation dealing with the matter.

TUESDAY, MAY 30TH.

The Definition of Successful Vaccination.

Sir JOHN ROLLESTON asked the President of the Local Government Board whether, in view of the importance attached by medical vaccinist authorities to the existence of an adequate area of marks as an evidence of efficient vaccination, and in view of the practice of the Board in awarding a bonus to public vaccinators on similar evidence of the efficiency of the vaccination work, he would consider the desirability of specifying the cicatricial area necessary to a successful vaccination and of requiring the public vaccinators to inspect their vaccinations at the end of three months after the performance of the operation with a view to satisfying themselves that the specified area had been produced; and whether he would consider the desirability of embodying a definition of successful vaccination in the Board's instructions to vaccinators under contract and in Form E required by the Board to be filled up by medical practitioners who were not public vaccinators.—Mr. GERALD BALFOUR replied: Awards are made to public vaccinators on other considerations besides the "existence" in cases vaccinated by them "of an adequate area of marks." I have no power to define successful vaccination or to prescribe the duties of private medical practitioners in the matter referred to in the question, but I will consider to what extent it may be practicable to give effect to the honourable Member's suggestion so far as public vaccinators are concerned, whenever it becomes necessary to revise the regulations respecting their duties.

Cerebro-spinal Meningitis.

Mr. CHANNING asked the President of the Local Government Board whether he would publish, as a Parliamentary paper or in the press, the report of Dr. R. A. Farrar, the Local Government Board inspector, into the cases of cerebro-spinal meningitis at Irthlingborough, Northants; and whether he would state what steps, if any, were being taken to prevent, so far as possible, the introduction of the disease into this country and to isolate and to stamp out outbreaks of this disease.—Mr. GERALD BALFOUR answered: Dr. Farrar's report on this subject will, I hope, shortly be completed. I propose that it should then be printed and published. Communications have been made to the medical officers of health of the ports at which immigrants from the continent are usually landed with a view to these officers being on the watch for the possible importation of cases of cerebro-spinal meningitis from abroad. As I stated on Thursday last, in reply to a question by the honourable Member for the Radcliffe division, the Local Government Board is prepared to entertain proposals from the local authorities to make compulsory for a limited time the notification to them of cases of this disease where they deem it desirable.

SELECT COMMITTEE ON REGISTRATION OF NURSES.

The Select Committee of the House of Commons, presided over by Mr. TENNANT, which is inquiring into the question of the registration of nurses met again on May 25th.

Dr. E. H. GARVES, general practitioner of Bournemouth, said he had had 20 years' experience in that resort and five in hospital at Liverpool. The result of that experience convinced him of the necessity of the State registration of nurses so as to have some guarantee that nurses had had some training. It would improve the status of nurses. With regard to the sick poor, his opinion was that district nurses having charge of that kind of case necessarily had a good deal of responsibility upon them because they were not so closely supervised, and it was therefore necessary that they should be efficiently trained. There might be a central committee or council for registration purposes and to direct the form of examination. He did not think it was possible for nurses to be trained efficiently in all work in less than three years. Witness mentioned that at a largely attended public meeting in Bournemouth last winter at which he presided a resolution in favour of registration of nurses was carried unanimously.

Replying to Dr. C. F. HUTCHINSON, witness said registration ought to be compulsory. If he were a country medical man he would emphatically welcome the highly trained nurse.

A little later witness said he would not prohibit nurses not registered by the State from practising but it should be made perfectly clear to the public that they were not registered.

Dr. HUTCHINSON asked how he could make that view agree with his opinion that registration should be compulsory.

Witness: I would not make non-registration penal.

Dr. HUTCHINSON: Then you make it voluntary. You are on the horns of a dilemma.

Witness said he should certainly vote for compulsory registration even if it necessarily followed that it would be penal to act as a nurse without being registered rather than let the present system continue. Witness believed registration would not retard the supply of nurses and that the same charitable sources which found nurses now would continue to do so.

Sir HENRY BURDETT was next called. He said although he was not engaged directly in the training or control of nurses he had a good deal to do with matters appertaining to nurses and was also consulted by people managing hospitals and institutions. The number of nurses had an important bearing upon the deliberations of the committee. Under the term of sick nurses and invalid attendants, according to the last census, there were 74,344 persons in the United Kingdom. From that number had to be deducted 9000 who were too young or too old or were evidently not nurses, reducing the number to 65,000 in round numbers. After most careful consideration he had come to the conclusion that two thirds of the 65,000 could not be regarded for the purposes of this inquiry as trained nurses at all and if he were right the number of trained nurses the committee would have to consider was from 22,000 to 25,000. Witness made a number of calculations from which he arrived at an estimate of the certificated and trained nurses working in this country, the number not exceeding 30,000, even if, he said, it exceeded 25,000.

Regarding the supply of nurses witness said the main cause of the present evils was largely due to the profits which could be made by private venture homes and which made pseudo-nurses possible. The greater the demand for nurses the more variegated was the supply from these homes. It was a great temptation to anyone conducting this business and who found how profitable it was in times of epidemic or great pressure to send out to private families without much inquiry women who said they had been nurses. Speaking of the large percentage sometimes deducted from nurses for coöperation he said he knew from experience how enormous must be the profits of private venture homes in this respect.

Witness, in the course of some remarks on nurses' training in hospital, said the real training in the first year came mainly from observation and in his view the technical part of a nurse's work to equip her for this observation and period of extended instruction could be thoroughly done in 12 months. The linen and house-work could be largely curtailed. He hoped one result of this inquiry would be to secure reforms to promote the early coöperation of all engaged in the training of nurses so as to secure adequate technical training. The lack of coöperation which had hitherto marked the conduct of these institutions was not advantageous to the hospital nurse, the profession, or the public. Still there was a great deal of credit due to hospitals and nurses' training institutions which had brought modern nursing in this country to a high state of efficiency.

Passing to State registration, he maintained that the objects in view could be attained by better, simpler, and less expensive means than had been proposed in Parliament. It had been said that 60,000 nurses would register at once, either as trained nurses or as women who could satisfy the Board that they were in *bonâ-fide* practice before the Act passed. The consequences which would follow the letting loose on the public of 30,000 women not trained but recognised as registered nurses would make the bravest pause. Such must be one of the consequences of a time limit and if the lines of existing legislation were to be followed such a limit must be allowed. His suggestions were that Parliament should enact that all training schools for nurses and all hospitals and institutions that trained nurses, according to a given standard, should be registered and inspected, but the registration of such establishments should be made conditional on the training of nurses being carried out in such a way as to fulfil the standard laid down, and upon examinations being held on some such system as that which governed the proceedings of the General Medical Council; on the granting of certificates in a certain form; on the publication of a register each year of all nurses trained and certified by each such school and hospital; on the post-graduate training of all certified nurses who desired those facilities by the school where they were trained; providing further that each training school and each hospital which trained nurses should afford its nurse graduates the opportunity, if they wished, of joining the private nursing staff attached to the institution and of having secured to them in liberal measure the payments received for their work. In this way, said witness, they would cut at the root of existing evils and in a few years those evils would be probably entirely removed. In any system including the proposals he had submitted it was essential that some provision should be made for those nurses who had not had the advantages of a three years' training in a single hospital but might possess excellent technical and moral qualifications for nursing. He thought Lord Rothschild's scheme for the higher education and training of nurses might usefully undertake the work for organising examinations for the benefit of this flowing army of irregulars. Those who passed the test should be granted the certificate entitling them to rank as qualified nurses.

Replying to the CHAIRMAN, witness said he would have the Registration Board or Council based on the lines of the General Medical Council.

The committee then adjourned.

Further evidence was taken on Tuesday, May 30th.

Mr. JAMES RUSSELL MOTION, inspector of poor and clerk of the parish council of Glasgow, stated, in reply to the CHAIRMAN, that the council passed a resolution in favour of registration. It was strongly felt that something should be done for the protection of the public, the nurses, and the medical men. At the present moment the Poor-law nurses in Glasgow were registered under the authority of the Local Government Board of Scotland. This was done under a Treasury minute in connexion with the grant of £20,000 for medical relief. The Secretary for Scotland determined that that sum should be distributed among the parochial boards of Scotland which had applied it under rules and conditions in payment of a portion of the cost of trained sick nursing in poor houses and so on. Under that grant the local authority had been able to register the nurses it employed who had trained for two years and had passed an examination. The local authority declined to accept the services of any nurse who should not be able to pass the examination, because by doing so it would lose the half of her salary and maintenance which the grant afforded. A trained sick nurse must not have less than two years in a public hospital or a training school for nurses which maintained a resident medical or surgical officer; she must not be under 22 years of age or over 45; and no grant was made in respect of nurses who had not entered in the register. It was in the power of the Local Government Board to remove the name of any nurse from the register. He found that there was a sufficient supply of nurses for the hospitals and institutions of the parish council. As the Local Government Board could do this work of registration he would ask why it could not be done for the whole country. In their own hospitals the council found that two years' training was sufficient. The council had 227 nurses, of whom 144 were probationers.

By Sir JOHN BATTY TUKE: There should be some universal examination, because one medical officer might be strict and another lenient.

By Mr. MOUNT: Those nurses who stayed over the two years in the council's hospitals were registered.

By Mr. KENNETH BALFOUR: The medical officers of Glasgow had not, to his knowledge, passed any resolution on this subject and he had no knowledge of any meeting of medical men on the subject.

By Mr C. HOBHOUSE: The system of registration in Glasgow was practically dependent on the grant of the Local Government Board, but he did not think that in the event of that grant being withdrawn the system would disappear. He, for one, would do his best to keep registration at its present standard. The council's system was to have two years' compulsory training and one year's voluntary training, but he would like to see another year added.

Then your view of registration is that you would like to prevent the supply to the public of nurses who have less than three years' training?—Yes. Continuing, he said that there was no scarcity of nursing and ladies were willing to go into the hospitals to train. The great bulk of the nurses in Glasgow trained three years.

By Mr. DOUGLAS: The object of the parish council was to have a half-mark for nurses and uniformity. It had no interest in restricting the supply. He was not clear that the object could be gained by voluntary registration but if it could be achieved he would say by all means let them have it.

By Mr. PIERPOINT: The great bulk of the nursing in working men's families was carried on by nurses attached to churches or other bodies. There were people who looked after their neighbours when they were ill but who did not get payment.

Sir JOHN BATTY TUKE: But you must have a certain number of so-called nurses who are not fully qualified and who are practising for gain?—I have no doubt there will be some such nurses. A self-respecting nursing institution would not send out a nurse with only one year's training. It is very much to be desired that that practice should cease.

If you stop these women nursing who are to take their places?—I do not admit that that is nursing.

But registration would interfere with those women of one year's or no training?—Certainly. It will interfere with those women who are masquerading as nurses, but it will not affect the general supply of nursing.

Miss SHANDON, matron of the Western Infirmary of Glasgow, stated that she was in favour of registration. At that infirmary they had a system of examination twice a year and from 15 to 18 went up. The percentage of passes was very high. The examination was difficult and she attributed the almost universal success of the candidates to the fact that they were very capable and competent women and to the good training they received. There had been no expression of opinion on the part of the nurses in Glasgow in regard to registration. The question had not been taken up very much by them. She did not favour the institution of two classes of nurses. It would not work because the untrained nurse would occupy the position she now occupied and the public would not be protected. She saw no difficulty in the way of getting a sufficient number of nurses. If thoroughness of training and good character could be secured by voluntary State registration she agreed that that would be a good scheme. She would steer clear of punishment if that were possible.

By Sir J. STIRLING-MAXWELL: The nurses at the Western Infirmary were not drawn from the domestic servant class. They were generally the daughters of professional men and farmers. Very few came from the so-called gentle class. She thought a fee of five guineas would not stand in the way of registration.

By Viscount MORPETH: Nurses who had been trained during only one year sometimes did good work, but she did not know that it was satisfactory work. From a trained nurse's point of view she thought it was worth nothing at all. She admitted those nurses did some good but not much.

Mr. GEORGE WILLIAM DUNCAN, secretary of the Central Midwives Board, said that the system of examinations under the Board was only beginning and the first examination would be held next month. For that the fee would be one guinea, but it would

not be sufficient to pay for the examination. He would suggest the raising of the fees. It was too soon to say anything as to the permanent working of the Midwives Act. The normal work of the Board might be said to begin now. A very large number of women had claimed the privilege of getting the certificate without examination but in future the only means of obtaining it would be by examination after training in accordance with the rules. The Board had registered 22,300 women and there were some refusals. The normal expenses of the Board for last year were £2000 and they were likely to increase. The Board had struck off three names in the last few months. The great difficulty was that the Board had no power to summon witnesses and to administer the oath. The time might come when it might be impossible to secure evidence. Six cases had been investigated since Jan. 1st. Three persons had been struck off and three were censured. None of those who had been struck off had appealed to the High Court. The census of 1901 gave the number of midwives resident in England and Wales as 3055, but the number of registrations had largely exceeded everybody's expectations.

The committee then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASHTON, GEORGE, M.D. Manch., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer for Home Patients to the Manchester Royal Infirmary.

BEATTIE, D. A., M.D. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

CREASER, THOMAS, B.A., M.B., Ch.B. Dub., has been appointed Junior House Surgeon to the Bootle Borough Hospital.

DODD, JOHN, M.D., M.Ch. R.U.I., has been appointed Visiting Medical Officer to the Leicester Poor-law Infirmary.

DUNN, SPENCER SMITHSON, M.B., Ch.M. Aberd., has been appointed Vaccinator for the District of Victoria, Australia.

DYRING, C. P. W., M.B. Melb., has been appointed Certifying Medical Practitioner for the purposes of the Factories and Shops Acts, Victoria, Australia.

ELLIS, L. B., M.B., Ch.M. Syd., has been appointed Medical Officer of Manilla Hospital, New South Wales, Australia.

FISHER, WALKER, M.R.C.P. Edin., L.F.P. & S. Glasg., has been appointed Government Medical Officer at Weston, Maitland, and Hon. Visiting Officer to the Maitland Hospital, New South Wales, Australia.

FULLERTON, ALEXANDER YOUNG, L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Licensing Magistrate and Official Member of the Licensing Court for the Licensing District of Murrurundi, New South Wales, Australia.

GRAHAM, E. A., M.B., Ch.B. Melb., has been appointed Certifying Medical Practitioner for the purposes of the Factories and Shops Acts, Victoria, Australia.

HODGSON, STANLEY, M.D., B.S. Lond., M.R.C.S. Eng., has been appointed an Honorary Physician to the Pendleton Branch Dispensary of the Royal Salford Hospital.

HOBSFORD, CYRIL A. B., M.D. Edin., F.R.C.S. Eng., has been re-appointed Senior Clinical Assistant to the Throat Hospital, Golden-square.

HOWARD-JONES, J., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator to the Worthen District and Medical Officer of Health to the Chirbury Rural District, Shropshire.

JONES, WILLIAM ERNEST, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Inspector-General of the Insane, Victoria, Australia.

MANBY, WALTER EDWARD, B.A., M.B., B.Ch. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Bridport, Dorset.

MITCHELL, WRIGHT, B.A., M.B., Ch.B. Dub., has been appointed Senior House Surgeon to the Bootle Borough Hospital.

SHARPE, W. SALISBURY, M.D., M.R.C.S., M.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WILSON, GEORGE NICOL, M.D., D.P.H. Aberd., has been appointed Senior Assistant Medical Officer to the Port of Glasgow.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ACTON URBAN DISTRICT COUNCIL.—Medical Officer of Health and Medical Superintendent of Isolation Hospital. Salary £500 per annum, inclusive.

BRADFORD UNION WORKHOUSE, &c.—Senior Resident Medical Officer. Salary £350 per annum, with residence, coal and gas, and fees.

BUCKNALL, STOKE-ON-TRENT, INFECTIOUS DISEASES HOSPITAL.—Resident Assistant Medical Officer (female). Salary £100 per annum, with apartments, board, washing, and attendance.

CANCER HOSPITAL, Fulham-road, S.W.—Assistant House Surgeon for six months, renewable. Salary £70 per annum, with board and residence.

DARENTH, NEAR DARTFORD, KENT, METROPOLITAN ASYLUMS BOARD ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

DOWNPATRICK, DOWN DISTRICT LUNATIC ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, board, washing, &c.

DUDLEY, THE GUEST HOSPITAL.—Honorary Surgeons.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Physician.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

GORDON HOSPITAL, Vauxhall Bridge-road, S.W.—Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Physician. Also Anæsthetist, with honorarium of 15 guineas for one year.

HULL ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50 per annum, with board and lodging.

INDIAN MEDICAL SERVICE, India Office, S.W.—Examination for not less than 14 Commissions.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £90 per annum, with board, residence, &c.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Honorary Assistant Physician.

LONDON COUNTY COUNCIL.—Medical Officer to the Staff constructing the Rotherhithe Tunnel under the Thames. Salary £400 per annum. Also Assistant Medical Officer in the Education Branch of the Public Health Department. Salary £300 per annum. Also 20 Local Assistant Medical Officers. Salaries £150 per annum.

LONDON TEMPERANCE HOSPITAL.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Honorary Assistant Physician.

MANSFIELD, NOTTINGHAMSHIRE CONSUMPTION SANATORIUM.—Resident Medical Officer (female). Salary £100 per annum.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—Assistant Physician.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, residence, and laundry.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board and residence.

ROYAL DENTAL HOSPITAL, Leicester-square, London, W.C.—Anæsthetist. Honorarium £50 per annum.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—Clinical Assistants.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Senior Obstetric Assistant (female). Salary £50 per annum, with board, lodging, and washing.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon. Salary £90.

SALFORD ROYAL HOSPITAL.—Senior House Surgeon. Salary at rate of £110 per annum. Also House Physician. Salary at rate of £100 per annum. Also Junior House Surgeon. Salary at rate of £90 per annum. All for six months, with board and residence.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Honorary Medical and Surgical Registrar.

SCARBORO' HOSPITAL AND DISPENSARY.—Junior House Surgeon, for six months. Salary £30 per annum, with board and residence.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—Senior Clinical Assistants.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Senior Resident Medical Officer, unmarried.

WARWICK COUNTY ASYLUM, Hatton, near Warwick.—Third Assistant Medical Officer. Salary £130 per annum.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Medical Registrar. Salary £50 per annum. Also Physician.

WISBLEY, NEAR BATH, SANATORIUM FOR POORER CONSUMPTIVES.—Resident Medical Officer, unmarried. Salary £200, rising to £300.

Births, Marriages, and Deaths.

BIRTHS.

GOODCHILD.—On May 30th, at Highgate-road, N.W., the wife of N. John Goodchild, M.R.C.S., L.R.C.P. Lond., of a son.

GUNDLACH.—On May 23rd, at Ryde House, Upper Clapton, N.E., the wife of J. Gundlach, M.R.C.S., L.R.C.P., of a son.

HOLT.—On May 18th, at Chipping Sodbury, Glos., the wife of Alfred V. C. Holt, L.R.C.P., L.R.C.S. Edin., L.F.P. & S. Glasg., of a son.

PETTY.—On May 28th, at Essex House, High-road, South Tottenham, the wife of David Petty, M.B., of a son.

MARRIAGES.

BONNEY—APPLEYARD.—On May 27th, at St. John's, Notting Hill, by the Rev. J. E. Dowling, M.A., William Francis Victor Bonney, M.D. Lond., F.R.C.S. Eng., eldest son of William Augustus Bonney, M.D., of 100, Elm Park-gardens, Chelsea, to Annie Oliver, eldest daughter of the late Dr. Appleyard, of Tasmania.

CHILD—HANCOCK.—On Thursday, June 1st, at the parish church, Knaresborough, by the Rev. Francis Eliot, M.A., assisted by the Rev. W. S. M. Hancock, M.A., Francis Joseph, second son of John Child, 10, Holland-villas-road, Kensington, to Lucy, second daughter of the Rev. Canon W. E. Hancock, M.A., vicar of Knaresborough, Yorks.

DEATHS

SUTCLIFF.—On May 27th, at Chagford, Edward Harvey Sutcliff, M.B., M.R.C.S., L.R.C.P., of Torrington, Devon, aged 32.

SUTTON.—At Mountain Lodge, Dharmsala, Punjab, on Sunday, Jan. 29th, 1905, Margaret, wife of S. W. Sutton, M.D., B.S. Lond.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"EMPIRICAL SCIENCE."

WE have received a document from a gentleman, named H. C. Hiller, dated from Didsbury, Manchester, numbered "Pamphlet 8," and informing us that a book of his can be obtained at a certain price from a certain publisher, while inclosing a preface to the work. The author apparently is a critic of science, or, as he prefers to call it, "empirical science," and perhaps the previous pamphlets have made his position clearer. At any rate, we should not guess, from the evidence with which he supplies us, that he is a very wise person. All the same, he has thought of an original method of advertising his work, and if only the representatives of "empirical science" would have been kind enough to fall in with his suggestion he might have done good business. He appears to have written to Lord Rayleigh, Lord Kelvin, Sir Oliver Lodge, Sir James Dewar, Sir William Crookes, Professor William Osler, Professor A. Schuster, and Professor Horace Lamb, inviting them to read advance sheets of his book, and "if you consider my position vulnerable in important respects expose the defects, your exposure to be embodied or not at your option in the book." Now it is an undoubted fact that whereas the public might not be particularly anxious to hear of "the new science of causation" (the subject of the book) from the pen of Mr. Hiller, they would like very much to hear anything from the pens of Lord Rayleigh and the other distinguished physicists. A good many authors of standing would have no objection to receive beforehand expert criticism of their work so that they could purge their work from obvious faults, or alter its tenour in inconvenient places, but it has been left to Mr. Hiller, we think, to devise a scheme by which the publication of criticisms—presumably adverse—of his work should float his publication. Lord Rayleigh and the others may be exponents of "empirical science," whatever that is, but they knew too much to fall into Mr. Hiller's little trap. They have all decided not to read Mr. Hiller's advance sheets and we have decided not to read his book.

AN OLD LANCET CASE.

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent "Provenance," who asks for particulars *re* an old lancet case, I should say it was somewhat doubtful whether the lancets mentioned are contemporary with the case. "Savigny & Co." was a very noted firm of surgical instrument makers and their place of business, 67, St. James's-street, and as far as I can remember they were succeeded by Messrs. Louis Blaise and Co. at the same address in the latter part of the "seventies," both firms being instrument makers to St. George's Hospital. "Pratt" was an instrument maker in business at 430, Oxford-street, London. I possess an aural syringe marked with his name. I may also tell you that my obstetric forceps (Simpson's long) were constructed for me to order by Savigny and Co. in the year 1876.

I am, Sirs, yours faithfully,
EDWARD A. PIGGOTT, L.R.C.P. Edin., &c.

Clare, Suffolk, May 27th, 1905.

P.S.—It is very doubtful whether either of the above firms is now in existence.

THE FEE FOR A POLICE SUMMONS.

To the Editors of THE LANCET.

SIRS,—I was recently summoned by a policeman in uniform to attend a case of cut throat a quarter of a mile away. I was paid £1 1s. at the inquest and afterwards sent in an account to the chief constable for £1 1s. for attendance at the deceased's house. The chief constable answered:—

> "I understand you were paid a fee for attending this case at the inquest. However, your being summoned to the house ..... was at the request of the father, to whom I must refer you for any charge you have to make."

Can you tell me if I can claim the fee?

I am, Sirs, yours faithfully,
BAYNHAM.

May 26th, 1905.

*** We think that our correspondent is legally entitled to the fee.—ED. L.

ST. HELENS HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I thank you for the very excellent notice you have given to the St. Helens Hospital. You quite understand the 1d. a week or the 1s. a day subscriptions do not pay the medical man; these subscriptions do not include medical attendance—most of the patients belong to works or clubs, by whom the medical attendance is provided. The chief features are: 1. A highly trained and most efficient nursing staff, capable of meeting any emergency that occurs until the arrival of medical men. The telephone greatly facilitates the prompt attention of professional men. 2. The almost general support in all the works and collieries of the district by means of the 1d. a week subscription.

On May 19th about 120 representatives from the various works met in the town hall, St. Helens; the mayor presided, but the meeting was convened at the request of the men themselves. It was unanimously and enthusiastically resolved to subscribe an extra penny per week to wipe out the whole of the outstanding balance of between £3000 and £4000. If this enthusiastic sympathy with hospital work was general throughout the kingdom financial difficulties would soon be unheard of in connexion with this most beneficent work.

I am, Sirs, yours faithfully,
J. FENWICK ALLEN.

Whalley Range, Manchester, May 27th, 1905.

A CURIOUS SUPERSTITION.

To the Editors of THE LANCET.

SIRS,—It is commonly believed amongst the more ignorant inhabitants of the Island of Guernsey that the husband is apt to suffer from illness during the period of his wife's pregnancy and that such illness usually takes the form of boils and abscesses in various parts of the body. I am informed by a member of the Royal Court, Jurat Jno. de Garis, a well-known authority on Guernsey folk-lore and customs, that so widely spread is this belief that in the Guernsey *patois* the verb "cahuchier" means specially to suffer from illness under the above detailed conditions.

The origin of such an old-established idea, of course, cannot easily be traced but it would be interesting if any of your readers are aware of this superstition being prevalent in any other part of the British Isles or elsewhere and, if so, could they give any further details?

I am, Sirs, yours faithfully,
HY. DRAPER BISHOP.

Guernsey, May 29th, 1905.

BEDBOROUGH *v.* DAWSON AND WIFE.

IN the King's Bench Division of the High Court of Justice on May 26th a parlourmaid brought an action against Dr. B. Dawson to recover damages for alleged slander and dismissal. The defendants denied the slander complained of—namely, that the plaintiff had committed thefts in the defendants' house—and pleaded justification in dismissing the plaintiff. The trial of the action lasted two days and the jury eventually returned a verdict for the defendants; judgment was given accordingly.

T. V.—We cannot speculate as to the condition. A medical man must be consulted and he will decide as to the necessity of inviting the opinion of a specialist.

J. R.—There are scores of such remedies still in existence while scores have died out, their general utility not matching their local fame.

Jns. will find the whole subject discussed in THE LANCET, March 25th, 1905, p. 817.

M.R.C.S.—Yes.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.).

FRIDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat,

Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Royal Ear (10 A.M.).

SATURDAY (10th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (6th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. W. P. S. Branson: Abdominal Tuberculosis in Childhood.—Dr. P. J. Cammidge: The Reaction of Phenylhydrazin with other Substances than Dextrose occurring in the Urine.

WEDNESDAY (7th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Mr. H. Paterson, Dr. Singe (introduced by Dr. Handfield-Jones), Dr. R. Andrews, Dr. Lewers, Dr. Boxall, Dr. Fairbairn, Mr. Targett, and Dr. Cullingworth. Short Communications:—Mr. A. Doran: Repeated Tubal Pregnancy.—Dr. H. Bell: On the Appearance of Thyroid-like Structures in Ovarian Cysts. Paper:—Surgeon-Captain J. C. H. Leicester: A Case of Eclampsia, with Death on the Sixteenth Day after Delivery from General Septic Peritonitis due to Rupture of an Abscess in the Spleen.

THURSDAY (8th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M. Card Specimens will be shown by Mr. G. Coats, Mr. G. W. Thompson, Mr. L. Werner, Mr. J. H. Parsons, Mr G. S. Keeling, and Mr. J. H. Fisher. 8.30 P.M. Papers:—Mr. R. W. Doyne and Mr. S. Stephenson: A Note upon Cribriform Choroido-Retinitis, a rare form of Fundus Disease.—Dr. G. A. Berry: (1) On Trellis-like Keratitis; (2) On the Question of Visual Efficiency.—Mr. L. Paton: The Subsidence of Optic Neuritis after Removal of Cerebral Tumours.—Mr. L. Werner: Ring Sarcoma of the Uveal Tract originating close to the Angle of the Anterior Chamber, Intense Melanosis of the Iris and of the Angle of the Anterior Chamber in its Whole Circumference; Secondary Glaucoma.—Mr. F. R. Cross: Further Note on a Case of Orbital Tumour previously shown.—Dr. W. E. Cant: The Use of Strong Applications in the Treatment of Ophthalmia.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Address: Dr. H. Kelly (Baltimore): Tuberculosis of the Urinary Tract in Females. Followed by a Conversazione.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.) 5.15 P.M. Dr. D. Grant: The Non-Laryngoscopic Diagnosis of Laryngeal Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Examination of the Stomach and Gastric Contents.

UNIVERSITY OF LONDON (Physiological Laboratory, South Kensington, S.W.).—5 P.M. Lecture: Dr. G. Oliver: Hæmomanometry in Man.

TUESDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. R. Hutchison: Clinique. (Medical.) 5.15 P.M. Mr. W. G. Spencer: The Treatment of Diseases of the Knee-joint.

POST-GRADUATE COLLEGE (London County Lunatic Asylum, Claybury, Woodford Bridge, Essex).—3 P.M. Dr. R. Jones: Varieties of Insanity.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Buzzard: Disseminated Sclerosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture-Demonstration:—Dr. G. N. Meachen: The Modern Conception of Eczema.

WEDNESDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. G. L. Cheatle: Clinique. (Surgical.) 5.15 P.M. Dr. G. A. Sutherland: Pneumonia in Children.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Lecture:—Dr. Habershon: The Causes and Treatment of Hæmoptysis.

THURSDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Mr. R. Clarke: Lachrymal Obstruction, its Causes and Treatment.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Edwards: Rectal Cases.

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Mr. Kellock: Acute Necrosis.

CHARING CROSS HOSPITAL.—4 P.M. Dr. Murray: Demonstration of Medical Cases. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Lecture:—Dr. Lockyer: Pregnancy and Ovarian Tumours.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture:—Mr. F. P. Weber: Pneumothorax in Tuberculous Subjects. (Post-Graduate Course.)

ROYAL INSTITUTE OF PUBLIC HEALTH.—5 P.M. Dr. G. Newman: Milk-borne Diseases.

FRIDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. A. Lawson: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Cases of Skin Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. F. Buzzard: Myasthenia Gravis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture-Demonstration:—Dr. R. M. Leslie: Prognosis in Heart Disease.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 1st, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall	Solar Radiation Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
May 26	30·05	S.W.	...	97	67	52	51	58	Cloudy
,, 27	30·14	S.W.	...	125	73	51	52	60	Fine
,, 28	30·29	S.W.	...	128	77	52	54	60	Fine
,, 29	30·09	S.	...	130	81	60	64	71	Fine
,, 30	30·08	N.E.	...	106	73	61	60	67	Fine
,, 31	29·99	N.E.	0·86	113	68	57	57	61	Overcast
June 1	30·00	S.W.	0·08	120	66	54	56	61	Cloudy

During the week marked copies of the following newspapers have been received:—*Westminster Gazette, Yorkshire Mercury, Manchester Chronicle, Daily Chronicle, Irish Times, Morning Leader, Surrey Advertiser, Reading Mercury, Literary Digest (New York), Scientific American, Daily News, Australasian Medical Gazette, Western Mail (Cardiff), Herefordshire Mercury, Windsor and Eton Express, Gardener, St. Helens News and Advertiser, Westminster Hospital Gazette, Nursing Times, Mercy and Truth, Dublin Weekly Times, Liverpool Post and Mercury, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. H. A. Anstey, Bristol; Mr. A. Allworth, Lond.; Messrs. R. Anderson and Co., Lond.; Automatic Disinfectant Delivery Machine Co., Lond.

B.—Mr. H. H. Bashford, Basildon; Mr. D. D. Brown, Sunderland; Mr. J. A. Bartlett, Bristol; Dr. B. T. Buzzard, Lond.; Staff-Surgeon R. F. Bate, R.N., Devonport; *British and Colonial Druggist*, Lond., Secretary of; British Gynæcological Society, Lond., Hon. Secretary of; Mr. A. Browne, Leicester; Messrs. Bulmer and Co., Hereford; T. B. Browne, Ltd., Lond.; Mr. F. A. Brockhaus, Lond.; Mr. J. W. Benson, Lond.; Mr. W. V. Ball, Lond.

C.—Mr. R. F. Coghlan, Lond.; Chelsea Clinical Society, Hon. Secretary of; Mr. C. F. Carpenter, Bishop's Teignton; Clerical, Medical, and General Life Assurance Co., Lond., Secretary of; Messrs. A. Constable and Co., Lond.; Cosmo Chemical Co., Lond.

D.—Mr. E. C. Duchesne, Lond.; Messrs. De Vere and Co., Lond.; Mr. Arthur T. Dale, Lond.; Devon and Exeter Medico-Chirurgical Society, Exeter, Hon. Secretary of; Major J. Donovan, I.M.S., Egmore, India; Mr. N. R. Dharmavir, Padiham.

E.—Dr. Alexander M. Elliot, Champion Reef, Mysore State; Epsom College, Chairman of the Finance Committee of; Mr. Arthur Englefield, Gloucester; *L'Echo Medical*, Nimes, Editor of.

F.—Mr. Andrew Fullerton, Belfast; Mrs. Frances E. Furnivall, Lond.; Major G. H. Fink, I.M.S. (retired), Lond.; Friedenheim Hospital, Secretary of.

G.—Mr. R. G. Gallop, Cambridge; Dr. H. J. Godwin, Winchester; Great Eastern Railway Co., Continental Traffic Manager of.

H.—Dr. Stewart Hallows, Lond.; Hull Royal Infirmary, Secretary of; Mr. J. W. Hoey, Lond.; Hotel Tariff Bureau, Lond.; Mr. W. Haddon, Lond.; Mr. S. Harvey, Lond.; Hospital for Sick Children, Lond., Secretary of; Mr. Reginald Harrison, Lond.; Dr. F. Strong Heaney, Blackpool; Fleet-Surgeon W. E. Home, R.N.; Dr. Herard, Paris; Mr. W. H. Hornibrook, Ingatestone; Dr. Huggard, Lond.; Mr. W. H. Haw, Knysna, Cape Colony; Mr. W. Horabin, Crewe; Dr. Francis Hawkins, Reading; Hanley, Stoke, &c., Joint Hospital Board, Hanley, Clerk of.

J.—Mrs. Walter Johnson, Northallerton; J. S. R.

K.—Dr. H. Cameron Kidd, Bromsgrove; Messrs. Kress and Owen, New York; Kettering Hospital, Secretary of; Messrs. R. A. Knight and Co., Lond.

L.—Marquise de Lisle, Rome; Mr. H. H. Lacy, Warwick; Leicester Infirmary, Secretary of; Mr. T. P. Legg, Lond.; Mr. F. W. Lowndes, Liverpool; Liebig's Extract of Meat Co., Lond.; Library Bureau, Lond., General Manager of; Leicester County Lunatic Asylum, Visiting Committee of; Local Government Board, Lond., Medical Officer of; Local Government Board for Scotland, Edinburgh, Secretary of; Liverpool Hospital for Consumption, Secretary of; Dr. A. H. N. Lewers, Lond.

M.—Dr. Reginald Morton, Lond.; Maltine Manufacturing Co., Lond.; Messrs. Merryweather and Sons, Lond.; Manchester Royal Infirmary, Secretary of; Mr. John D. Malcolm, Lond.; Mr. R. J. Marks, Lond.; Dr. C. Killick Millard, Leicester; Dr. S. G. Moore, Huddersfield; Sir John Moore, M.D., Dublin; Mount Vernon Hospital for Consumption, &c., Lond., Secretary of; Dr. Mendel, Paris; M. D.; Mr. B. G. A. Moynihan, Leeds; Manchester Medical Agency; The W. S. Merrell Chemical Co., Cincinnati, U.S.A.

N.—Messrs. Nicolay and Co., Lond.; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Mr. J. Offord, Lond.

P.—Mr. Victor G. Plarr, Lond.; Mr. Harold Pickering, Tamworth; *Der Post*, Berlin, Editor of; Mr. F. A. Pond, Liverpool; Mr. Y. J. Pentland, Edinburgh; Messrs. Parke, Davis, and Co., Lond.; *The Police Review and Parade Gossip*, Lond., Editor of; Messrs. Peacock and Hadley, Lond.

R.—Sir Arthur Rücker, Lond.; Royal Institute of Public Health, Lond., Hon. Secretary of; Dr. W. Robinson, Sunderland; Mr. A. Rivers Willson, Oxford; Mr. R. J. Russell, Lond.; Royal College of Physicians, Lond., President and Fellows of; Mr. J. Rhodes, Lond.; Surgeon-General A. Scott Reid, I.M.S., Murree, Punjab; Messrs. R. J. Reid and Co., Lond.; Messrs. Rippon, Boswell, and Whitaker, Exeter; Messrs. Reynolds and Branson, Leeds; Messrs. Robertson and Scott, Edinburgh.

S.—Mr. Charters Symonds, Lond.; Mr. Andrew Stewart, Birkenhead; Seamen's Hospital Society, Lond., Secretary of; Sarnian; Mr. W. Hugh Spottiswoode, Lond.; Dr. S. G. Scott, Leeds; Dr. R. Atkinson Stoney, Dublin; Salford Royal Hospital, Secretary of; Messrs. T. J. and W. G. Shaw, Stoke-on-Trent; Samaritan Free Hospital for Women, Lond., Secretary of; S. J. D.; Surgeon; Dr. R. B. Sherlock, Sutton; Scholastic, Clerical, &c., Association, Lond.; Sprague Canning Machinery Co., Chicago, U.S.A.; Messrs. G. Street and Co., Lond.

T.—Mr. D. B. Todd, Westbury; Mr. Charles S. Thomson, Glasgow; Dr. J. H. Talient, Chislehurst; Dr. Sydney G. Tippett, Rainham.

V.—Vinolia Co., Lond.

W.—Dr. W. H. Willcox, Droitwich; Dr. Arthur C. Wilson, Formby; Messrs. W. Wood and Co., New York; Dr. V. Wanostrocht, Fanny Compton; Messrs. W. Watson and Sons, Lond.; Mr. Wren, Binfield; *Wigan Observer*, Manager of; Mr. Claude Weakes, Lond.; Mr. Charles Walker, Lond.; Dr. Bertram Watson, Harrogate; Mr. J. Williams, Bradford; Messrs. H. Wilson and Sons, Lond.; Westminster, Medical Officer of Health of; Mr. Frederick Wheeler, Lond.

X.—X. Y. Z.

Y.—Dr. R. A. Young, Lond.

Z.—Messrs. A. and M. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Adlard and Son, Lond.; A. M.; A. S. M.; A. G. L.; Mr. J. D. Athey, Bishop Auckland; A. B. C., Birmingham; A. L. B.; A. B. A.; A. H. G.; Mr. G. Aldridge, Sheerness.

B.—Dr. A. Brownlie, Hamilton; Mr. J. T. Barrett, Oldham; Mr. D. M. Brawn, Lichfield; British Lysoform Co., Lond., Secretary of; Dr. Duncan Brown, Newport, Monmouthshire; Mr. W. H. Baker, Upper Edmonton; Dr. N. J. Blayney, Maryborough; Messrs. Baird Bros., Glasgow; Messrs. J. H. Booty and Son, Lond.

C.—Mr. G. N. Carter, Lond.; Messrs. Cassell and Co., Lond.; The Coppice, Nottingham, Secretary of; C. A. C.; C. J. J. H.; *Chester Courant*, Manager of; Crookesbury Sanatorium, Farnham, Medical Superintendent of; Messrs. Evan Cook and Co., Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Mr. L. B. Dhargalkar, Bombay; Mr. B. C. Das, Santipur, India; Doctor, Wanstead; Dr. R. W. Diver, Shotley Bridge.

E.—Electrical Standardising Institute, Lond.; E. H. B. B.

F.—Dr. R. D. Fisher, Lond.; Messrs. Fairchild Bros., and Foster, Lond.; Messrs. Fletcher, Fletcher, and Co., Lond.; F. W. F.

G.—Mr. S. G. Gordon, Llandilo; Mr. H. Gemmell, Peterchurch; Dr. A. S. Gubb, Aix-les-Bains; *Gloucester Journal*, Manager of; Grove House, Church Stretton, Medical Superintendent of; G. F. C.; Dr. J. Gillan, Ryhope; Mrs. A. Gordon, Witley; Messrs. Gale and Co., Birmingham; G. H. H.

H.—Mr. H. A. Hawkins, Lond.; Mr. P. E. Heubeck, Cwmaman; Mr. G. Hudson, Ipswich, Queensland; Dr. T. Hodge, Claremont, Western Australia; H. W. G. M.; Messrs. Haasenstein and Vogler, Geneva; H. H. W.; Mr. A. V. C. Holt, Chipping Sodbury; Dr. J. S. Hinnell, Bury St. Edmund's; H. D. M. C.; H. I. B.; Messrs. Hooper and Co., Lond.; Messrs. Abel Heywood and Son, Manchester; Dr. H. E. Haines, Hove; Mr. W. B. Harley, Hove.

I.—International Plasmon, Lond.; Invernith Lodge Retreat, Colinburgh, Medical Superintendent of.

J.—Mr. T. W. Joshi, Amraoti, India; "Jacobus," Lond.; J. C., Exeter; J. M. K.; J. G. B.; J. G.; Mr. Y. M. Jones-Humphreys, Cemmaes.

K.—Messrs. Knight, Frank, and Rutley, Lond.; Dr. C. F. Knight, Edinburgh.

L.—Miss Lysaght, Mallow; Mr. H. H. Loveday, Littlecove; Lancashire County Asylum, Winwick, Clerk of; Locum, Lond.

M.—Mr. Mitchell, Castleberg; M. B.; Messrs. Millward, Bradbury and Co., Liverpool; Male Nurses' Temperance Co-operation, Lond., Secretary of; Dr. Mitchell, Ottery St. Mary; Manchester Hospital for Consumption, Secretary of; Mr. H. J. D. Mackay, Watten.

N.—Mr. J. H. Nixon, East Leake; Nemo, Birmingham; Nashipur State, India, Medical Officer of; Newport and Monmouthshire Hospital, Secretary of.

O.—Mr. R. A. O'Brien, Cairns, Queensland.

P.—Miss Potter, Wolverhampton; Dr. J. A. W. Pereira, Exeter; Mr. C. L. Pasker, New York; Pudukottai State, India, Civil Medical Officer of.

R.—Mr. J. Scott Riddell, Aberdeen; R., Market Drayton; Rawsco, Lond.; R. H.; Royal South Hants and Southampton Hospital, Secretary of.

S.—Dr. S. W. Sutton, Reading; Sanitary Publishing Co., Lond.; Messrs. Spiers and Pond, Lond.; Messrs. Sale and Co., Manchester; Messrs. Savory and Moore, Lond.; Messrs. Simmons and Sons, Basingstoke; Mr. H. W. Scriven, Lond.

T.—Mr. A. G. Tribe, Treorchy; T. J. P.; Dr. H. Taylor, Rhan.

W.—Mr. L. J. West, Morley; W. M. S.; Westminster General Dispensary, Lond., Secretary of; W. A. S.; W. Q. B.; W. E. D.; Mr. P. W. Walker, Birmingham; Miss H. Walker, Lond.

Y.—Y. K., Llanharran.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under £0 5 0
Official and General Announcements	Ditto 0 5 0
Trade and Miscellaneous Advertisements and Situations Vacant	Ditto 0 4 6
	Every additional Line 0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 21, Rue Bapte, Asnières, Paris.